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# ACUTE CHOLECYSTITIS*

## A Study of Conservative Treatment

BY CHARLES D. BRANCH, M.D.,† AND ROBERT ZOLLINGER, M.D.†

### INTRODUCTION

MODERN surgical opinion, as expressed in recent articles, tends to favor early operation in the treatment of acute cholecystitis. The impression is given that acute cholecystitis, because of the consistently high mortality rate, should be considered an acute surgical emergency and that delay is no more to be tolerated than in acute appendicitis. However, an analysis of these articles clearly shows that the so-called early operation is not always an immediate one, but may be performed during a period varying from several days to two weeks following the onset of the acute attack. It would seem, therefore, that there are relatively few surgeons who routinely advise immediate operation.

Miller,[1] 1930, and Graham,[2] 1931 were among the first to call attention to the better results which they and their associates obtained when early operation was employed. Miller advised immediate operation in those cases in which the symptoms were severe and persistent, and also in doubtful cases. Graham called attention to the reduction in mortality in his series from eleven per cent to five per cent following the attempt to operate in cases of acute cholecystitis forty-eight hours or less after the onset of the attack. Stone and Owings,[3] 1933, have been the most dogmatic in sponsoring prompt operation and have concluded that immediate operation is the method of choice in all types of acute inflammation of the gallbladder. Zinninger,[4] 1932, was not so positive that all cases of acute cholecystitis should be submitted to immediate operation, advising this only for those cases in which the symptoms were severe and the leucocytosis was high. In the remaining cases, if the symptoms did not subside within forty-eight hours, operation was strongly urged. The majority of the other recent articles temporized and advised, what seemed to us to be, a conservative type of treatment. Smith,[5] 1933, and Behrend,[6] 1934, have been staunch advocates of conservative treatment for all cases unless free peritonitis existed.

Because of the divergence of opinion we have analyzed the cases of acute cholecystitis seen in the Peter Bent Brigham Hospital during the past twenty years in an effort to draw our own conclusions regarding the merits of either method of treatment. A conservative method has been generally used in the treatment of the 235 patients with acute cholecystitis treated during that period. As the accompanying chart (table 1) shows, there has been an increase in the incidence of these cases during the last three years. Whether this is due to the "depression", which Steinke[7] believes to have caused procrastination in chronic cases, is difficult to determine for it may be that there has been a tendency to operate before the acute attack has completely subsided. This would increase the number of cases in which patients showed evidence of acute inflammation at the time of operation. Undoubtedly there have been additional patients with acute

TABLE 1

| Years | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | Total | Deaths |
|---|---|---|---|---|---|---|---|---|---|---|
| 1914 | | | | 1 | | | | | 1 | 0 |
| 1915 | | 1 | | 4 | 4 | 2 | | | 11 | 2 (18.1%) |
| 1916 | | 3 | 2 | 4 | 1 | 1 | 1 | | 12 | 1 (8.3%) |
| 1917 | | 1 | 3 | 2 | 3 | 3 | | | 12 | 0 |
| 1918 | 1 | 1 | | 4 | 4 | 2 | | | 12 | 1 (8.3%) |
| 1919 | | | 1 | 1 | 2 | | 2 | | 6 | 1 (16.6%) |
| 1920 | | | 3 | 1 | 5 | | | | 9 | 1 (11.1%) |
| 1921 | | | | 1 | 1 | | 1 | | 3 | 0 |
| 1922 | | | | 1 | | | | 1 | 2 | 1 (50.0%) |
| 1923 | | 1 | 3 | | 5 | | | 1 | 10 | 1 (10.0%) |
| 1924 | | 2 | 4 | 3 | 1 | 1 | | | 11 | 1 (9.0%) |
| 1925 | | | 5 | 4 | 1 | 4 | 1 | | 15 | 0 |
| 1926 | | | 2 | 1 | 3 | 4 | 1 | | 11 | 1 (9.0%) |
| 1927 | | 2 | | 3 | 5 | 4 | | | 14 | 2 (14.2%) |
| 1928 | | 2 | 1 | 2 | 1 | 5 | | | 11 | 1 (9.0%) |
| 1929 | | 1 | | 1 | 3 | 3 | 2 | | 10 | 1 (10.0%) |
| 1930 | | 1 | | 1 | 5 | 5 | 1 | | 13 | 3 (23.0%) |
| 1931 | | | 3 | 3 | 2 | 2 | | | 10 | 1 (10.0%) |
| 1932 | | 1 | 1 | 5 | 5 | 4 | 1 | | 17 | 4 (23.5%) |
| 1933 | | 2 | 2 | 8 | 8 | 9 | | | 29 | 1 (3.4%) |
| 1934 | | | 1 | 5 | 5 | 1 | 4 | | 16 | 4 (25.0%) |
| Total | 1 | 18 | 31 | 55 | 64 | 50 | 14 | 2 | 235 | 27* (11%) |
| Male | 1 | 3 | 4 | 18 | 19 | 19 | 7 | 1 | 72 | (30.6%) |
| Female | | 15 | 27 | 37 | 45 | 31 | 7 | 1 | 163 | (69.3%) |

*Three cases were not submitted to surgery.

*From the Surgical Clinic, Peter Bent Brigham Hospital, Boston, Massachusetts.

†Branch, Charles D.—Resident Surgeon, Peter Bent Brigham Hospital. Zollinger, Robert—Junior Associate in Surgery, Peter Bent Brigham Hospital. For records and addresses of authors see "This Week's Issue," page 1204.

cholecystitis admitted to this hospital, but all those cases which were in the least questionable have been omitted.

### PATHOLOGY

It is generally agreed that calculi are usually associated with acute cholecystitis and that they are often found impacted in the neck of the gallbladder or cystic duct. The recent report of Andrews[8] indicates that in all such cases with obstruction of the cystic duct there is vascular damage, the extent of which determines the lesion of the gallbladder wall. That there is a single factor causing the circulatory stasis preceding this damage has not been demonstrated. This has been assumed to have been due to the impaction of a calculus, which, by direct pressure, closed the vein and lymphatics. Kreider,[9] in 1933 showed by injection of the veins in cases of cholelithiasis that an impacted stone could not cause venous stasis. He demonstrated that there was a venous plexus in the mucosa, a cystic plexus which was found just outside the muscularis and accompanied the branches of the cystic artery, and unpaired cystic veins. These cystic veins varied greatly in size, number and course, some of them accompanying the branches of the cystic artery toward the neck of the gallbladder, others carrying blood around the sides of the gallbladder, or from its deep surface, directly into the liver by way of the gallbladder fossa. He maintained that the cystic veins do not run close enough to the cystic duct to be affected by the pressure of the stone in the duct and that only a small fraction of venous drainage occurred by way of the neck of the gallbladder.

A second possibility is that the edema, which is present to a varying degree in all these cases, obstructs locally by direct pressure the lymphatics and lesser venous drainage, thus causing vascular damage. This of course would require an explanation for the formation of the edema, which might be caused by the absorption of the bile salts. Andrews and Henry[10] have suggested that a too strong concentration of the bile salts provokes an inflammation capable of producing absorption, an explanation with which we are in agreement.

### SYMPTOMATOLOGY

The symptomatology of acute cholecystitis may be quite varied although the classical description still emphasizes the occurrence of pain in the right upper quadrant with radiation to the angle of the scapula. It would be expected that most patients would complain of pain in the right upper abdomen. This has not been the rule in this series, for epigastric distress was nearly as common, and occasionally the chief complaint was localized pain or tenderness in the left upper or right lower quadrant. Since in many patients the gallbladder was found to be distended upon operation, the varied symptomatology could be explained by previous experimental observations made in this hospital.[11]

It has been observed that mechanical distention of the gallbladder and common duct in a conscious patient produces epigastric distress. The conclusion was drawn that the epigastric distress represented a true visceral type of pain, and that in cases of cholelithiasis it usually indicated overdistention of the gallbladder or ducts as the result of a stone located in, or tending to pass into, the cystic or common duct. Since the cystic duct or ampulla of the gallbladder is frequently blocked by a calculus, epigastric distress should be one of the more frequent initial symptoms of acute cholecystitis. In this series, according to the notations made by the surgeon or pathologist, a stone was impacted in the ampulla or cystic duct in 112 cases, or 46.4 per cent. From a study of these cases it is seen that the initial pain occurred in the epigastrium in eighty-eight, or 78.5 per cent. The pain in twenty of the above instances later shifted to the right upper quadrant with the increasing severity of the attack. This close relationship between the number of patients in which there was found definite evidence of cystic duct obstruction, and in which initial epigastric distress was present, is in accord with the experimental findings. In acute cases in which patients have epigastric distress and in which a cholecystostomy is done, the operator should be doubly certain to search for, and to remove, the probable impacted calculus. Furthermore, in those patients who have epigastric distress but show no evidence of acute cholecystitis the possibility of a stone in the common duct is suggested. This has been emphasized previously by one of us.[12]

Since referred pain to the right upper quadrant or back could not be reproduced by mechanical distention of the gallbladder or common duct, we concluded that referred pain to the right upper quadrant or back probably indicated an inflammatory process. The inference was drawn that the pain was referred over a peritoneocutaneous radiation (Morley[13]), instead of the widely accepted visceral sensory reflex of Mackenzie.[14] In other words, the referred pain in gallbladder disease depends upon stimulation of the cerebrospinal nerves supplying the involved peritoneum. The attack of acute cholecystitis may begin in the form of epigastric distress due to distention of the cystic duct by a calculus, and later pain in the right upper quadrant develops as the result of the inflammatory process in the gallbladder stimulating the overlying peritoneum. Likewise, the associated pain in the back would indicate involve-

ment of the cerebrospinal nerves supplying the painful segment. Inflammation would extend around the cystic and common ducts involving the cerebrospinal nerves in the gastrohepatic ligament, and in this manner pain would be localized in the back. We believe that the cerebrospinal nerve supply of the gastrohepatic ligament is the same as the margins of the diaphragm, that is, the lower six intercostal nerves. We know that the pain in the back is usually in the areas supplied by one or more of the lower six intercostal nerves.

An analysis of the pain in these patients with acute cholecystitis shows that eighty-seven, or thirty-seven per cent, complained of pain in the epigastrium originally and throughout their illness. According to Morley's theory it would be expected that this was true visceral pain, and that, unless contact of an inflammatory process with the peritoneum occurred, there would be no evidence of pain in the right upper quadrant or muscle spasm. Morley explains muscle spasm as due to a peritoneomotor reflex all within the cerebrospinal nerves. In fifty-three of these eighty-seven cases there was no evidence of rigidity or muscle spasm. However, in thirty-four instances there was evidence of rigidity. In twenty other patients there was pain in the epigastrium originally, but with the continuance of the disease process, the pain shifted to the right upper quadrant. According to our belief this is due to an inflammatory process coming into contact with the peritoneum and abdominal rigidity would be expected. We found that nineteen of these twenty patients had definite muscle spasm. In the case of 115 patients complaining of pain originally and continuously in the right upper quadrant there was muscle spasm in ninety-four; we would expect to find rigidity in all of these, but in twenty-one there is no mention of this in the history. The remaining cases of the series were unusual in that patients had pain originally in the right lower quadrant in nine instances, in the left upper quadrant in two cases, while in two patients the pain was localized in the chest.

Although referred pain may result from other stimuli, it is usually the result of an inflammatory process. Patients complaining of continuous pain in the right upper quadrant are considered as having an extensive inflammatory process involving the overlying peritoneum and extending down the ducts. It would, therefore, be expected that this group would show a high incidence of referred pain. Pain was referred to the back in eighty-six, to the shoulder in nineteen, and along the right costal margin in ten. In regard to epigastric pain, referred pain was found to have occurred in only a few. Occasionally the pain extended to the back except in a few cases when it was localized to the angle of the right scapula.

Nausea and vomiting are usually associated with gallstone colic. In a previous communication we have shown that involuntary vomiting occurred in only twenty-five to forty-four per cent of the patients with chronic cholecystitis and cholelithiasis without evidence of a stone located in the extrahepatic ducts. The incidence jumps to approximately ninety per cent in the cases of common duct stone. In acute cholecystitis, nausea and vomiting are common symptoms. Nausea was found in 197 of our 235 cases, while involuntary vomiting was found in 176 cases, or 74.9 per cent. By involuntary vomiting is meant spontaneous vomiting which the patient does not induce in an effort to relieve nausea. In the experimental work carried out it was found that the distention of the gallbladder did not produce vomiting while distention of the common or cystic duct caused involuntary vomiting. Therefore, it is probable that, in the 176 cases in which vomiting occurred, a calculus was impacted in the cystic duct or had passed through the cystic or common duct.

The physical findings of these patients upon admission to the hospital were not remarkable. As expected, tenderness was present in a great majority, localized in the right upper quadrant in 151 patients, in the epigastrium in twenty-four, over the entire right abdomen in twenty-five, and in the right lower quadrant in four patients. It was interesting to note that two of the patients showed well-localized tenderness in the left upper quadrant. Involuntary muscle spasm was found in 143 of the patients. This has been analyzed above in relation to the onset of the pain. A mass was palpated at the time of admission in seventy-six of these patients.

### TREATMENT

The treatment of these patients with acute cholecystitis was on the whole by conservative methods. Thirty-four, or 14.4 per cent, were submitted to immediate operation. This was done, in the majority of instances, because of signs of definite peritonitis, or because of suspicion of impending perforation of the gallbladder.

Perforation was suspected in those patients in which there was a rising leukocytosis and an increasing tenderness and rigidity in the right upper quadrant. The remaining 195 patients who were submitted to operation were treated conservatively. They were kept in bed, preferably in Fowler's position, food was denied them, and in recent years fluids, particularly dextrose solution, were administered subcutaneously and intravenously. The patients' temperatures routinely fell, most of them reaching a normal level, and only a few remaining above 99° F. This is shown graphically in the accompanying chart (figure 1). The average period necessary for

this to occur was 4.7 days. It is our belief that a period of five to seven days, or perhaps longer in a few cases, gives an opportunity for the patient's condition to improve and for the acute inflammatory process to subside, thus simplifying operation. That the danger of delay is not great is shown by the relatively few cases of generalized peritonitis. Judd and Phillips[15] reported 508 cases of patients with acute cholecystitis, only three (0.59 per cent) having generalized peritonitis. Graham[16] reported two cases occurring in his series, an incidence of 1.47 per cent. Our experience has been much the same in this group of acute cholecystitis. Generalized peritonitis was found to be present in six or 2.55 per cent. Because of the ability of the structures about the region of the gallbladder to wall off this area, and also because of the vascular supply of the gallbladder itself, this would be expected. Graham[16] concluded that it was untenable to make an analogy between acute cholecystitis and acute appendicitis for these reasons, and the same inference can be drawn from our group of cases.

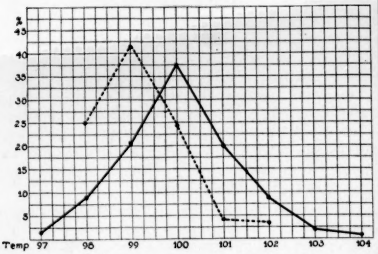


FIGURE 1. Solid line—Temperature on admission. Dotted line—Temperature following a period of conservative treatment.

Cholecystectomy was performed in 205 of the operative cases: in the remaining twenty-four, cholecystostomy was carried out. The majority of these twenty-four cases were patients in whom the condition was critical and who would not survive a more extensive procedure. Since cholecystectomy is the operation of choice, we believe that a period of waiting permits this operation to be carried out in most instances and does not necessitate a second operation which is so often required when cholecystostomy has been done. This delay also permits the inflammatory process to subside and thus eliminates, to a large extent, the danger of spreading the infection to the general peritoneal cavity. Nine of the twenty-four cases required a subsequent cholecystectomy, with one fatality (11.1 per cent). The common duct was explored in forty-five patients in our series with the discovery of calculi in nineteen, or 8.3 per cent of the 229 cases.

The gallbladder was found to have perforated in twenty-one patients, or 8.8 per cent of those operated upon. Six of these had been operated upon immediately following their admission to the hospital, the other fifteen were found at the time of delayed operation. In those patients operated upon at the time of delayed operation there had not been a spread of peritonitis. Careful analysis of these cases demonstrates that sixteen showed rigidity, while the remaining five were not suspected of having much in the way of an inflammatory process. Those patients who did not have rigidity complained of pain in the epigastrium, and they were found to have well walled-off abscesses of rather small size near the liver surface.

Calculi were found in 214 of the patients; they were mentioned as blocking the cystic duct in sixty-six instances, and as being impacted in the ampulla in forty-six additional cases. As has been mentioned before, common duct stones were found in nineteen of the patients whose biliary tract was explored. While this does not account for the total of 176 cases in which involuntary vomiting was a feature, at least it is significant, as it is an incidence of 63.6 per cent, and many of these patients may have had temporary blocking of the cystic duct by a stone which had been passed or had fallen back into the gallbladder at the time of operation. In recent years these patients have been given large amounts of fluids containing dextrose postoperatively to aid in the repair of liver damage. In patients on whom cholecystectomy was done the drain was removed routinely on the third or fourth day. In those cases in which there was no complication the patient was placed on a high carbohydrate and low fat diet about the third day following operation.

The complications of upper abdominal operations are usually associated with the respiratory tract. Surprisingly enough in this series there were only eight patients who developed bronchopneumonia; atelectasis occurred in two additional cases, and pleurisy with effusion in two others. The remaining complications are listed on the accompanying chart (table 2).

In this series of 235 cases there were twenty-seven deaths, three occurring among the six cases that were not submitted to operation. The operative mortality for the remaining 229 cases was 10.4 per cent (twenty-four deaths). Seven (20.5 per cent of the cases submitted to immediate operation) were immediately operated upon, while the seventeen other deaths followed an interval, 8.7 per cent of the 199 having had a delayed operation. Cholecystectomy had been done in nineteen of these, cholecystectomy with exploration of the common duct in three, and cholecystostomy in two.

The death of the patients who were operated upon immediately was due, in a large part, to their poor condition. Three were moribund upon admission and operation was undertaken only as a last resort. The cause of death in those patients in whom operation was delayed was varied; four were caused by bronchopneumonia, while three others showed evidence of emboli, two lodging in the pulmonary artery and one going to the brain. Five cases might have terminated differently if too extensive an operative procedure had not been carried out. If cholecystostomy had been done the chance for the spread of infection would have been lessened. It is probable that in such cases simple drainage is the preferred method of treatment. Liver damage, as shown by cholangeitis and localized abscesses, was the most important etiological agent in three patients, while in the remaining two the cause of death could not be determined.

TABLE 2
COMPLICATIONS

| | |
|---|---|
| Infected wound | 16 |
| Wound disruption | 2 |
| Distention | 9 |
| Bronchopneumonia | 8 |
| Atelectasis | 2 |
| Pleurisy with effusion | 2 |
| Subphrenic abscess | 1 |
| Bile sinus | 3 |
| Parotid abscess | 2 |
| Phlebitis | 1 |
| Total | 46 (20%) |

Follow-up studies were possible in 152 of the 208 patients who survived operation. These patients were seen after a period of at least two years following operation, and a large number at least five years afterwards. In 110 of these patients there was no recurrence of symptoms either in the form of epigastric distress or colic, nor had gastrointestinal symptoms returned. Sixteen patients complained of definite pain either in the epigastrium or the right upper quadrant. In some of these the pain was described as a colic similar to that occurring before operation. Fifteen patients complained of indigestion and gaseous eructation following operation. In five patients subsequent attacks of colic suggested that reoperation be performed, which resulted in the finding of a common duct stone. One died of carcinoma of the head of the pancreas one and one-half years after operation. Five individuals died of other causes before the period of two years had elapsed. In the 152 patients seen, seven postoperative hernias had developed.

## SUMMARY

An analysis of 235 cases of acute cholecystitis treated by conservative surgical methods is presented.

The location, significance and mechanism of pain in acute cholecystitis is discussed in relation to previous experimental studies.

Thirty-four, or 14.4 per cent, were submitted to immediate operation. The remaining 195 patients who were operated on were treated conservatively for an average of 4.7 days before operation.

Generalized peritonitis was found to be present at operation in six, or 2.5 per cent, of the cases.

Cholecystectomy was performed in 205 cases and cholecystostomy in twenty-four cases.

There were twenty-seven deaths among the 235 patients, three being in the group not submitted to operation. The operative mortality for the entire series was 10.7 per cent. In the case of immediate operation there were seven deaths (mortality 20.5 per cent), and after delayed operation seventeen deaths (mortality 8.7 per cent).

## CONCLUSION

A survey of the literature shows that very few surgeons consider acute cholecystitis a condition requiring immediate surgical intervention as in the case of appendicitis. The conservative type of treatment, with operation after an interval of several days, has been followed in this series of cases. From our analysis of this series, it would seem that a delay of several days is of advantage since it gives an opportunity to improve the patient's general condition without spread of the local process.

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The Massachusetts Medical Society

# FROM COW-PATH TO STATE ROAD*

BY REGINALD FITZ, M.D.†

IN the early days of 1636, three hundred years ago, while our forefathers were placidly tending their cows on Boston Common, Mr. William Pynchon of Roxbury led an adventuresome band of his fellow townsmen westward in search of better hunting grounds until finally he struck a pleasant camping place on the Connecticut

FIG. 1. 1636. The Cow Path: Boston to Springfield, William Pynchon leads the Roxbury emigrants Westward. (Springfield Public Library.)

River, settled there, and so the city of Springfield was founded. To be sure fourteen years later Mr. Pynchon had the temerity to publish a brochure called "The Meritorious Price of Our Redemption", which dealt with religious matters.

This now seems harmless enough, but at the time, it appeared so radical to the townspeople of Springfield as to cause a considerable amount of unfavorable comment there. Censure from his friends so much upset Mr. Pynchon's feelings that at once he left the shores of America never to return. Nevertheless he founded the City of Springfield and for so doing deserves everlasting credit.

In 1636, it would have been difficult to foresee that in three hundred years the town of Boston would grow to a city with 782,000 inhabitants and that the outpost on the Connecticut River founded by that handful of Roxbury emigrants would expand to hold 156,000 people. Yet such indeed has occurred. These three centuries have been eventful epochs. They have seen the formation of the United States of America. They have been punctuated, among other great events, by four significant wars, and recently by the most widespread economic depression the country has known. Along with such major happenings has been a period of amazing growth and expansion, and interspersed among them have developed perplexing mechanical devices such as trains, telephones, electric lights, and automobiles and equally baffling medical contrivances such as hospitals, medical schools, the State Department of Health, and suggestions from the Government for insurance against the vicissitudes of old age and sickness. All these have had an appreciable influence, from time to time, in modifying the roadway which medicine has followed.

Three hundred years ago, the practice of medicine in Massachusetts was a simple business. It was conducted largely by clergymen who took an almost unwarrantable interest in peoples' bodies as well as in their souls. A pressing question at once arose as how best to safeguard people in the future in this new and unknown land.

Interestingly enough, one of the most important first steps to be taken toward the future was the establishment of a method by which people might be educated.

> "After God had carried us safe to New England, and wee had builded our houses, provided necessaries for our liveli-hood, rear'd convenient places for Gods worship, and setled the Civill Government: One of the next things we longed for, and looked after was to advance *Learning* and perpetuate it to Posterity; dreading to leave an illiterate Ministery to the Churches, when our present Ministers shall lie in the Dust. And as wee were thinking and consulting how to effect this great Work; it pleased God to stir up the heart of one Mr. Harvard (a godly Gentleman, and a lover of Learning, there living amongst us) to give the one halfe of his Estate (it being in all about 1700.l.) towards

*The Annual Discourse delivered at the Annual Meeting of the Massachusetts Medical Society, Springfield, June 10, 1936.

†Fitz, Reginald—Associate Professor of Medicine, Harvard Medical School. For record and address of author see "This Week's Issue," page 1204.

the erecting of a Colledge, and all his Library: after him another gave 300.l. others after them cast in more, and the publique hand of the State added the rest: the Colledge was, by common consent, appointed to be at *Cambridge*, (a place ruled "that such as studies phisick or chirurgery may have liberty to reade anatomy, and to anatomize once in fore years some malefactor, in case there be such as the courts shall allow

NEVV
ENGLANDS
FIRST FRUITS;

IN RESPECT,

First of the { Conversion of some, / Conviction of divers, / Preparation of sundry } of the *Indians*.

2. Of the progresse of *Learning*, in the *Colledge* at CAMBRIDGE in *Massachusets* Bay.

WITH
Divers other speciall Matters concerning that *Country*.

Published by the instant request of sundry Friends, who desire to be satisfied in these points by many *New-England* Men who are here present, and were eye or eare-witnesses of the same.

*Who hath despised the Day of small things.* Zach. 4. 10.

*If thou wert pure and upright, surely now he will awake for thee: ... And though thy beginnings be small, thy latter end shall greatly encrease.* Iob. 8 6,7.

LONDON,
Printed by R. O. and G. D. for *Henry Overton*, and are to be sold at his Shop in *Popes-head-Alley*. 1643.

FIG. 2. 1643. Title page of "New England's First Fruits". This contains the first published description of Harvard College. (Widener Library.)

very pleasant and accomodate) and is called (according to the name of the first founder) Harvard Colledge."

That doctors must be trained systematically also was soon apparent so that presently it was of." From such simple beginnings arose our process of medical education.

There has always been a strange fascination in certain people's minds toward trying to manage other people's business. Before long

amateur regulators of human affairs began to appear on the scene, ignorant amateurs who had never even "anatomized a malefactor", and yet who competed in the spiritual and physical management of souls in a manner thoroughly distasteful to competent professionals like William Pynchon. It became necessary to put a stop to such goings on. The manner in which medical licensure originated, also, was delightfully simple. Mistress Hawkins was said to have a knack at practical obstetrics and to be a good hand at the prescription of medicinal herbs. Unhappily for her, however, she was caught at these practices by someone who did not approve. There was no Board of Registration in Medicine and no Committee on Ethics and Discipline to contend with; all that was required to put a stop to her activities was a General Court ruling, easily obtainable, no doubt, if one knew the ropes; "Jane Hawkins, the wife of Richard Hawkins, had liberty till the beginning of the 3rd month, called May, and the Magistrates (if shee did not depart before) to dispose of her, and in the meane time shee is not to meddle in surgery or physick, drinks, plaisters or oyles, nor to question matters of religion, except with the elders for satisfaction." These restrictions not proving sufficient, 'twas ordered some months later, "Jane Hawkins is enjoyned to depart away to morrow morning, and not to return againe hither, upon paine of severe whiping and such other punishment as the courte shall think meete; and her sonnes stand bound in 20 pounds to carry her away, according to order." And that was that!

In cow-path days Springfield was far removed from Boston, an isolated community in the middle of Massachusetts: the transportation problem was unsettled, there were no good roads, and there were plenty of Indians and other dangers to catch the unwary. Such being the case, there was little traveling so that each individual town in the Commonwealth was thoroughly independent and ran its own affairs in a manner to suit itself. It took no time at all for people to recognize that epidemics were uncomfortable, with high mortality, and that good health was almost a public necessity. One might argue, as did the Reverend Michael Wigglesworth of Malden, that the country was going to the dogs, that young people were not so good as they should be and that ill-health on the whole was more due to depravity than anything else.

*"Our healthful days are at an end,
And sicknesses come on
From yeer to yeer, becaus our hearts
Away from God are gone.
New England, where for many yeers
You scarcely heard a cough,
And where Physicians had no work,
Now finds them work enough.
Now colds and coughs, Rhewms, and sore-throats,
Do more & more abound:
Now Agues sore & Feavers strong
In every place are found.
How many houses have we seen
Last Autumn, and this spring,
Wherein the healthful were too few
To help the languishing.

One wave another followeth,
And one disease begins
Before another cease, becaus
We turn not from our sins.
We stopp our ear against reproof,
And hearken not to God:
God stops his ear against our prayer,
And takes not off his rod.

Beware, O sinful Land, beware;
And do not think it strange
That sorer Judgements are at hand,
Unless thou quickly change.
Or God, or thou, must quickly change;
Or else thou art undon:
Wrath cannot cease, if sin remain,
Where judgement is begun."

*Massachusetts Historical Society Publications, 12: 83, 1871-1873.

People less sentimental and more practical, however, believed that while prayer no doubt was useful yet the best way to control the spread of infectious disease was by more active methods. Boston's first quarantine law passed in 1647, marks the beginning of health control by municipal, state or federal agencies.

"For as much as this Corte is credibly informed that ye plague, or like grieves infectious disease, hath lately exceedingly raged in ye Barbadoes, Christophers, and other islands in ye West Indies, to ye great depopulating of those, it is therefore ordered, that all (our own) or other vessels coming from any pts of ye West Indies to Boston Harbor shall stop (and come to an) anchor before they come at ye Castle, under ye poenalty of 100 pounds, and that no persn coming in any vessel from the West Indies shall go ashore in any towne, village or farme, or come within foure rods of any other person, but such as belongs to the vessels company that hee or shee came in, or any wayes land or convey any goods brought in any such vessels to any towne, village, or farme, aforesaid, or any other place within this iurisdiction, except it be upon some iland where no inhabitant resides, without licence from ye councell, or some three of them, under ye aforesaid poenalty of a hundred pounds for every offence."

The early years of the eighteenth century added two more episodes significant to my narrative. In 1721, Zabdiel Boylston, aided and abetted by the Reverend Cotton Mather, introduced public education of the layman on medical affairs, thus laying the foundation for all the Sunday afternoon public lectures and for the popular books on health and hygiene that were to come later. In that year there was an epidemic of smallpox in Boston. Boylston having conducted a careful clinical investigation dealing with the mitigation of this disease by the method of inoculation published the results of his studies. This publication stirred up a great controversy: people raved, ranted and blasphemed over it. But nevertheless as a result of

Boylston's efforts the mortality from smallpox dropped from around fourteen to a little over one per cent, and he demonstrated convincingly enough that doctors could be influential in the creation of medical propaganda and could deal effectually with masses of people through the medium of literature and public teaching.

Two years later some wise clinician pointed out that the rum drinkers of New England were

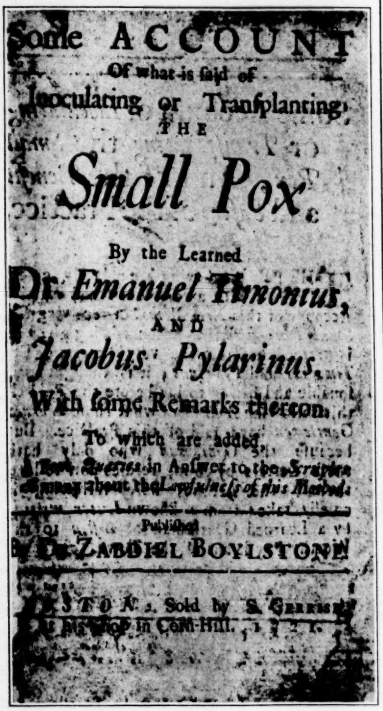

Some ACCOUNT
Of what is said of
Inoculating or Transplanting
THE
Small Pox.
By the Learned
Dr. Emanuel Timonius,
AND
Jacobus Pylarinus,
With some Remarks thereon.
To which are added,
Publish'd
By ZABDIEL BOYLSTON.
BOSTON: Sold by S. Gerrish

FIG. 3. 1721. Title page of Zabdiel Boylston's first paper on Small Pox inoculation. This demonstrated the importance of public education on medical subjects by medical men. (Massachusetts Historical Society Library.)

suffering inordinately from the "Dry Gripes" and that the cause of this unpleasantness lay in the fact that their rum was being distilled through leaden pipes. Accordingly the General Court ordered:

"Whereas, the strong liquors and spirits that are distilled through leaden pipes are judged on good grounds to be unwholesom and hurtful; notwithstanding which some persons to save charge may be led into the making or using of such heads, worms or pipes; for remedy and prevention whereof,—

Be it enacted by the Lieutenant-Governor, Council and Representatives in General Court assembled, and by the authority of the same,

(Sect. 1.) That no person whatsoever shall make use of any such leaden heads or worms, for the future; and that whosoever shall presume to distil, or draw off any spirits or strong liquors thro' such leaden heads or worms, upon legal conviction thereof before any of his majestie's courts of record, shall forfeit and pay a fine of one hundred pounds.

"And be it further enacted by the authority aforesaid.

(Sect. 2.) That no brazier, pewterer or other artificer whatsoever, shall presume to make any worm or head, for distilling, of coarse and base pewter, or such as hath any mixture of lead in it, under the penalty of one hundred pounds."

This was the first time that governmental authority took steps to prevent any other disease than that of an infectious or contagious nature. Before 1775, therefore, medicine had advanced far beyond cow-path days and the State already was exerting its influence.

Surely the War of the Revolution taught New England physicians two important lessons: that there was an obvious dearth of men properly qualified by education to undertake the practice of medicine in spite of the old-fashioned preceptor system, and that hospitals were the proper places for practical clinical teaching. After the War, therefore, medical schools and hospitals soon began to crop up in appropriate centers: Harvard (1782), Dartmouth (1798), Yale (1814), Brown (1814), Castleton Medical College (1820), Bowdoin Medical College (1821), University of Vermont Medical Department (1823), Berkshire Medical College (1823), Vermont Medical College of Woodstock (1830). The Massachusetts General Hospital opened in 1821,* at once becoming, as Sir William Osler was later to characterize a good hospital, "a place of refuge for the sick poor of the city, a place where students are taught the best in medicine, a place where new thought is materialized in research and a consulting centre for the whole country in cases of obscurity."

A very interesting curve can be constructed from the available figures of the Massachusetts Medical Society and the Massachusetts census. Apparently there has been a surprisingly constant relationship for nearly a hundred and fifty years between the size of our Society and the population of the Commonwealth. With the in-

*There well may be a numerical relationship between the concentration of population and the need for hospital facilities. It is a striking coincidence that in 1810, when the Massachusetts General Hospital was being planned, the population of Boston was 33,787, and that in 1880, when the Springfield Hospital was being planned, the population of Springfield was 33,340. In 1936, Massachusetts has a population of about four and a half million; there are 272 hospitals recognized by the American Medical Association or one hospital for each 17,000 people.

creasing needs for doctors in the early days, and the difficulties of transportation between the various towns, it is evident that medical schools like those at Pittsfield and Woodstock, to meet the demands for well-trained practitioners.

Changes were due to occur. In 1840, Springfield was eighty-seven miles from Boston and

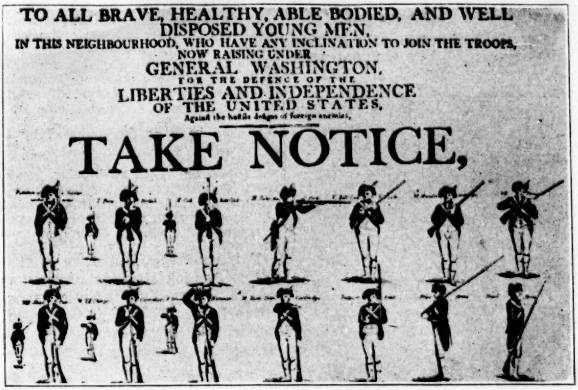

TO ALL BRAVE, HEALTHY, ABLE BODIED, AND WELL DISPOSED YOUNG MEN,
IN THIS NEIGHBOURHOOD, WHO HAVE ANY INCLINATION TO JOIN THE TROOPS,
NOW RAISING UNDER
GENERAL WASHINGTON,
FOR THE DEFENCE OF THE
LIBERTIES AND INDEPENDENCE
OF THE UNITED STATES,
TAKE NOTICE,

FIG. 4. 1775-1790. The Revolutionary Period: An appeal for volunteers by General Washington. There were almost no doctors to answer this call. (Pennsylvania Historical Society Library.)

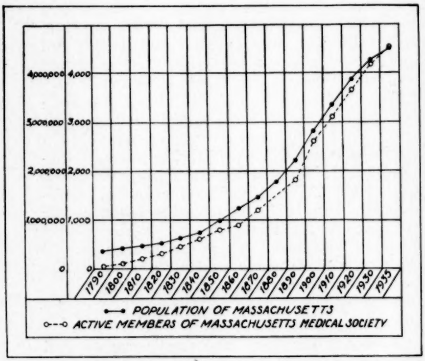



FIG. 5.* 1790-1935. The Growth of the Massachusetts Medical Society and the Population of Massachusetts.

tion two of the more ephemeral ones, did an excellent and essential piece of work in helping

*Unfortunately this diagram does not tell the whole story. In 1933, there were 4406 active members of the Massachusetts Medical Society and yet there were 7014 doctors listed as of Massachusetts by the American Medical Directory. In that year 269 new doctors were licensed to practice in Massachusetts, of whom 53 (20 per cent) were graduates of medical schools unrecognized by the Society. In recent years the number of doctors with unrecognizable medical education who have migrated to Massachusetts has steadily increased. The citizens of the Commonwealth cannot be guaranteed adequate medical supervision until they regain the courage of their Puritan forbears and handle medical licensure in as forceful a manner.

sixteen hours away. It was a homelike village of eleven thousand souls, with *"two banks, several printing offices, six churches and many elegant private residences". To get there a Bostonian stepped aboard the mail stage at Earl's, 36 Hanover Street, at two o'clock in the morning, drove leisurely over the turnpike through Waltham, Sudbury, Marlborough, Worcester, Brookfield, Palmer and arrived in Springfield at six o'clock in the evening.

Only a few years later railroads were to be built, opening up new country very quickly and shortening distances between old places even more remarkably. Almost overnight, it seemed, Boston and Springfield were close neighbors, now only three and a half hours apart. Such increased facilities for transportation had at once, I believe, a significant effect on medical education and progress. The Commonwealth grew richer rapidly, and many boys heretofore unable to afford a college education could now obtain one. The smaller medical schools were no longer necessary for it was nearly as easy for a Springfield student, for example, to go to the Harvard Medical School as it had been for his brother a few years earlier to go to Pittsfield. People soon realized that large medical centres like Boston afforded better opportunities for medical institutions than the smaller towns.

*Historical Collections. John Warner Barber. Worcester: Dorr, Howland and Co. 1841.

FIG. 6. 1836. The Turnpike: Boston to Springfield. (Harvard Medical School Library.)

Hence the smaller medical schools, having filled a useful purpose before the railroads came, now were gradually snuffed out, the larger ones continuing to exist in accordance with the law of survival of the fittest.

The year 1850 is important to the tale I am trying to unfold for, in this year, Mr. Lemuel Shattuck published his famous monograph "Report of a General Plan for the Promotion of Public and Personal Health." This remarkable document, assisted by the Massachusetts Medical Society* as obstetrician, eventually brought forth the State Board of Health.

It should be emphasized that Lemuel Shattuck was not a medical man, but a school-teacher, bookseller and publisher. He wrote his report with practically no assistance, and from an extraordinarily farsighted point of view. He be-

*In 1861, the Massachusetts Medical Society petitioned the Legislature for the establishment of a State Board of Health, a petition which finally was heeded eight years later.

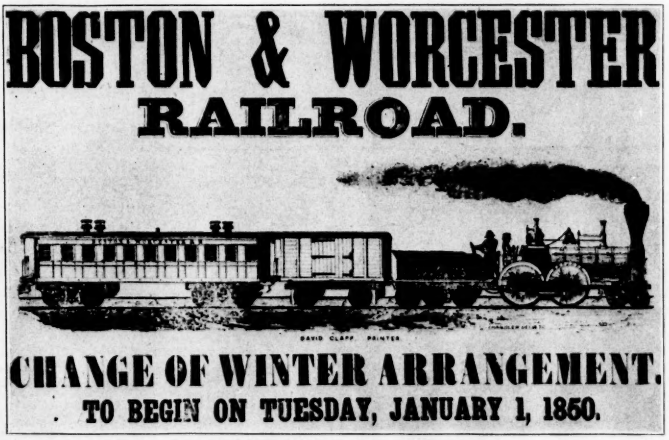
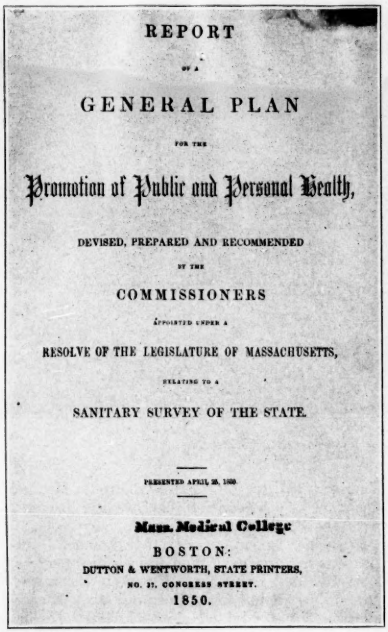



FIG. 7. 1850. The Railroad: Boston to Springfield. (Harvard Business School Library.)



REPORT

OF A

GENERAL PLAN

FOR THE

Promotion of Public and Personal Health,

DEVISED, PREPARED AND RECOMMENDED

BY THE

COMMISSIONERS

APPOINTED UNDER A

RESOLVE OF THE LEGISLATURE OF MASSACHUSETTS,

RELATING TO A

SANITARY SURVEY OF THE STATE.

PRESENTED APRIL 30, 1850

Mass. Medical College

BOSTON:

DUTTON & WENTWORTH, STATE PRINTERS,

NO. 37, CONGRESS STREET.

1850.

FIG. 8. 1850. Title page of Lemuel Shattuck's report. This report initiated the formation of the State Board of Health in 1869. (Harvard Medical School Library.)

lieved, as others had believed before him, that public good health was an essential attribute to civilized living and was public property. There was a vast amount of unnecessarily impaired health that could be prevented: the prevention of disease, on the whole, was much more important than its cure. He proposed that the State should enter the practice of preventive medicine in so far as this was possible by studying public health through accurately maintained vital statistics, by establishing and enforcing rational public health laws, by investigation of public health problems as they arose, and by continued improvement of public health by carefully controlled research. He advocated such modern projects as the medical inspection of school children, the development of training schools for nurses, the periodic health examination of apparently healthy people: in fact he was far ahead of his time in many ways. Like so many pioneer efforts in medicine, the importance of his work at the time was largely overlooked, bearing fruit, however, many years later.

It is curious how slight an impression was made on medicine by the Civil War. Army surgeons were busy enough to be sure, and well organized modern-looking army hospitals were established. But no new medical knowledge came into existence during this period. The Civil War, however, brought forth one baffling thought that many doctors subsequently have pondered over. In concluding his Gettysburg speech President Lincoln said, "Government of the people, by the people, and for the people, shall not perish from this earth." How can this phrase best be construed in terms of medical pol-

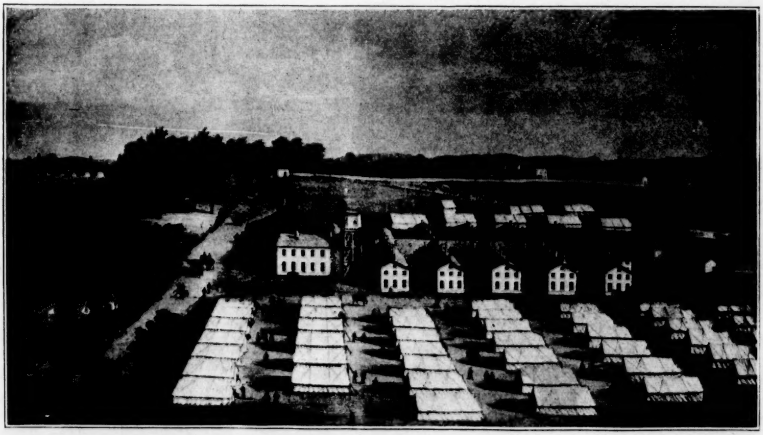


FIG. 9. 1864. The Civil War: Mount Pleasant Hospital, Washington, D. C., a typical war Hospital. (Harvard Medical School Library.)

icy? Shall medicine becoming, as it has year by year, increasingly complex in its social and economic relations, best be regulated for the people, by the people, through governmental control? Or will medicine in future be developed most safely, by the people, and for the people, through their insistence on a better trained, more efficient profession managing its own affairs and operating for their benefit in a manner unhampered by overzealous legislative restrictions?

After the Civil War ended, Massachusetts continued to grow. Between 1880 and 1900 three new complications to life were introduced. Thomas Edison devised the electric light, Alexander Bell the telephone, and electrically driven horseless carriages began to appear on the roads. One could write an entertaining essay upon the effect on medicine of these three inventions. To be sure, knowledge regarding electricity had been developing gradually for a long time. But the invention of the telephone with dramatic suddenness shortened distance even more notably than had the railroads. Springfield and Boston were now within easy speaking distance instead of three and a half hours apart.

The electric light, by the interest it at once aroused in scientific minds, opened up a new pathway to increased medical knowledge. New physiological equipment with modern electrical devices soon developed and made possible new researches; and new clinical apparatus like the x-ray, the electrocardiograph and the basal metabolism machine presently came into existence and general use, each dependent upon advancing knowledge of how to use electricity to good advantage.

The horseless carriage, at first regarded as a freakish toy for the rich, of little practical importance, and singularly well fitted to terrorize horses, was to become a universal means of transportation. In the fullness of time the motor car was to do to the railroad what the railroad had done to the stagecoach: it was to wipe out distance and timetables; inaccessible places were to exist no longer and all Massachusetts doctors were to be within easy driving range of one another.

In the meantime, before all this happened, the youthful State Board of Health was maturing. All over Massachusetts were developed improved conditions for maintaining good public health—better food, water and sewage control, better housing conditions and public parks, a better realization of the essential community health problems.

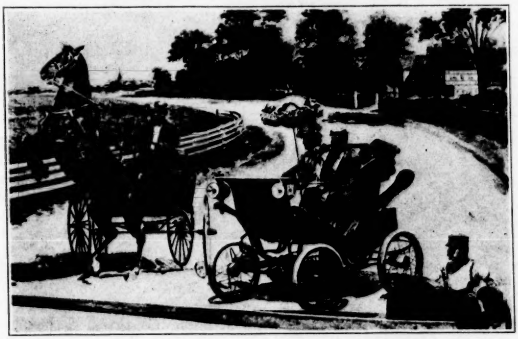


FIG. 10. 1890-1898. The Gay Nineties: The horseless carriage seemed a foolish means of transportation, of little practical use and singularly well fitted to terrorize horses. (Brookline Public Library.)

The Spanish War proved an important event to Massachusetts doctors because it focused public attention on typhoid fever. In 1895, three years previously, when clinical bacteriology came to light, the State entered the practice of therapeutic medicine by manufacturing and giving away diphtheria antitoxin. No one objected to this kind of lifesaving State medicine. A little later, when it became known that nearly one out of every five soldiers who enlisted for the Spanish War developed typhoid, there was no notable objection to the suppression of this disease by the State. People now were being informed that various other infectious diseases might be prevented or cured by modern methods. Hence as the State increased its work no one rebelled. Smallpox vaccine was freely distributed; gonorrheal ophthalmia was attacked; a laboratory was established for the early diagnosis of tuberculosis; State-made antitetanic and antimeningococcic sera were soon available. This chapter in the medical history of Massa-

chusetts is extremely interesting to think about, for it seemed to depend so definitely on three factors. A man at the head of the State Board of Health (the title of which was later changed to the State Department of Health) was essential, with vision and courage enough to combat the problems at hand. This man was Henry P. Walcott, a former President of the Massachusetts Medical Society. An event was necessary

FIG. 11. 1898. The Spanish War: Visitors to Camp. One out of every five men in the Camp developed Typhoid Fever. (Brookline Public Library.)

to excite the people over the unnecessary loss of human life from preventable infection and thus arouse a public opinion favorable to action. This event was the Spanish War. A scientifically trained man with sufficient expert knowledge to develop the State Laboratory Department satisfactorily and critically had to be found. This man was Theobald Smith. The combination of these three factors was largely responsible for the rapid development in State Medicine which has just been mentioned.

The years passed quickly and soon 1917 was reached. A new war was in the offing and was to teach Massachusetts doctors a new lesson. The War of the Revolution had revealed that there were not enough doctors to care for the needs of the rapidly growing population and that hospitals were the proper places for the best conduct of practical clinical teaching. The Great War demonstrated that there were not enough *well-trained* doctors to care for the needs of the population and that properly organized hospitals afforded excellent opportunities for well-directed postgraduate instruction. Many doctors in practice but a little out of step with what was going on were to enter the Army Medical Corps and receive intensive postgraduate teaching by well-qualified instructors.

Many doctors were to learn in the army good medical organization: the relation of modern laboratory methods to diagnosis and treatment; the value of systematic history taking and physical examination; the difference between haphazard and skilled medical or surgical therapy. A certain number of doctors were to return from the army to civilian life, wondering whether it might not be possible to conduct civilian medicine on a military-like basis, with a properly organized profession under able leadership working as a unit to bring to the sick and wounded of the community all that is best in advancing knowledge.

The last few years, in the light of the trend that has been developed in the past, are especially noteworthy. For the period since 1920, at a time when American life was very complex, has demonstrated the effect on medicine of an era of too great prosperity. We still are so close to these years that it is impossible to evaluate them properly. Certain facts, however, are apparent which afford an interesting field for speculation.

To my mind three of the most striking features of the last few years have been the general realization of how important a profession medicine is, how intimately its development and that of American industrial life appear to be correlated, and how much simpler it is for the State to finance medicine than for charitable members of the community to do so.

The various statistical tables which have been published demonstrate that the wealth of the country increased in notable fashion between 1920 and 1930, and that the high tide of prosperity was immediately followed by an equally impressive ebb. Statistical tables dealing with medical affairs reveal a similar rise and fall. This can easily be demonstrated by comparing, for instance, the income of the country, the income of almost any large Massachusetts hospital, and the income from advertising paid to the *Journal of the American Medical Association* during this period. The resultant curves are strikingly parallel.

It is a reasonable conclusion that from 1920-1930, when the country's income was becoming larger and larger, medicine, like other industries, overexpanded. In those days, evidently, it paid to advertise. New and expensively built hospital plants were established, old hospitals were made over, new laboratories were built, new and expensive hospital equipment was manufactured and sold, new and expensive

drugs became popular, new books were written and found a market, the cost of good medical care was exaggerated. When depression came after the stock market crash in 1929, there was no longer money available to carry on the great

A few pioneer medical economists began to express their ideas and warnings during the era of prosperity: when hospitals and doctors suddenly became poor there was a sharp almost hectic rise of interest in medical economics which

FIG. 12. 1918. The Great War: Base Hospital 5 in France, a typical war Hospital. (Harvard Medical School Library.)

overhead expense that had been set up. The question arose as to what should be done.

The immediate effect of such a situation has been to bring into existence a new field of medical literature. A few years ago the sub-

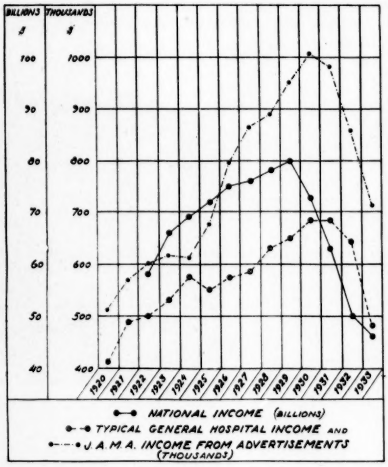



FIG. 13. 1920-1933. The relation between the income of the United States, of a typical Massachusetts Hospital, and of the *Journal of the American Medical Association* from advertising.

ject of medical economies was rarely discussed; now it is a favorite topic. The growth of this type of reading matter as reported in the Quarterly Cumulative Index presents a curve almost inverse to the curves of hospital income and medical advertising.

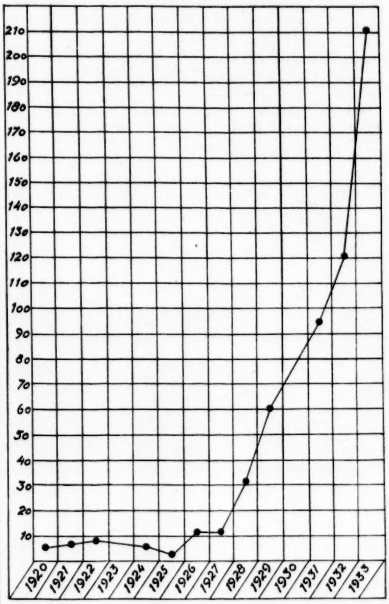



FIG. 14. 1920-1933. Articles on Medical Economics: The development of a new medical literature.

persists. It is only comparatively recently that various plans for hospital or health insurance have been widely debated and are receiving seri-

ous consideration and that community chests have become a common method for attempting to keep alive medical interests that otherwise might die.

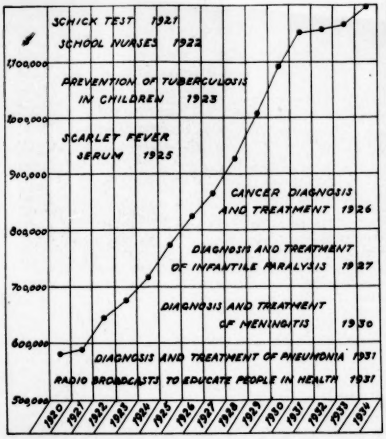



FIG. 15. 1920-1934. The growth in annual appropriation and certain activities of the Massachusetts State Department of Health.

The State, on the other hand, has continued its medical work untrammeled. Regardless of depression or prosperity, money has been forthcoming to make sure that good public health should be maintained in Massachusetts; so far new funds have always been found to carry forward such new projects as our Department of Health has considered advisable.

Fortunately no historian is expected to do more than study the past: it is not his function to attempt to forecast the future. As one reviews, even casually, the three hundred years of medicine that have elapsed since Springfield was founded, it is difficult to avoid one definite conclusion. In 1855, the Massachusetts Medical Society met here for the first time. The members from Boston who drove to the meeting rose early for their unhurried journey over the turnpike through Waltham, Sudbury, Marlborough, Worcester, Brookfield and Palmer. Today, I will wager, the members from Boston who drive homeward from Springfield after their third meeting here, will be conscious of one very significant impression which never before has been so inescapable. As they speed past green, red and yellow lights on the new highway, they must realize, perhaps somewhat sadly, that the old independent days of cowpath and turnpike are gone. Now, with the rest of the citizens of Massachusetts, they are traveling, on occasion too fast for safety, along the State Road.

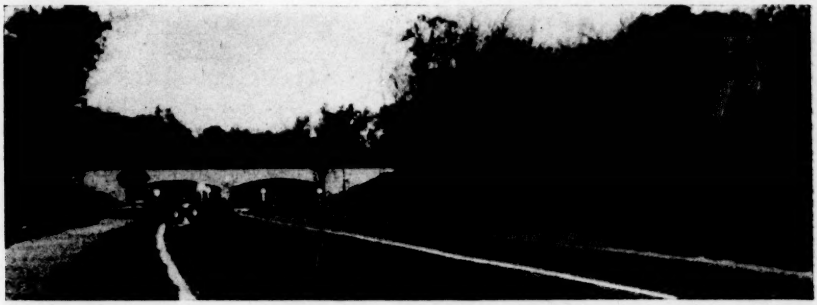


FIG. 16. 1936. The State Road: Boston to Springfield.

# THE HEREDITARY ASPECT OF PROGRESSIVE PSEUDOHYPERTROPHIC MUSCULAR DYSTROPHY

BY GARRY DE N. HOUGH, JR., M.D.*

IN a recent contribution on the inheritance of muscular dystrophy Karl Pearson[1] said, "There are few pathological states productive of greater human misery than the muscular dystrophies. There are hardly any states which have a more marked familial character, and none wherein it is more the bounden duty of the unaffected members of a tainted stock to refrain from reproduction." He further asks, "Are we to wait till these muscular dystrophies have been classified into separate categories and an adequate series of pedigrees collected for each type?"

In my opinion, such classification and collection of pedigrees is exactly what is needed, and for that reason I am reporting the following family history. This family represents the only instance in my personal investigation of over a hundred cases of the pseudohypertrophic form of muscular dystrophy in which the condition was known to be present in more than one generation, although frequently two or more cases in siblings have been observed. As will be seen the transmission was through the apparently normal female members of the family.

In the H. Family, which I am presenting, a single child (IV 19 on the chart), first came to my attention. At that time he was twelve years old and presented an advanced stage of typical pseudohypertrophic progressive muscular dystrophy of the usual Duchenne type. In obtaining the family history it was found that two first cousins (IV 15 and 16) were suffering from the same disease. Further investigation discovered two more cases in second cousins (IV 1 and 2).

Through the interest and co-operation of the family, information was obtained concerning seventy-nine other members of the family. The brother of the maternal great-grandmother (I 3) was a cripple and was "always" confined to a wheel chair. He died between thirty and forty years of age. The cause of death could not be ascertained, nor could any information be obtained concerning any progression of his disability. While by no means certain, it is possible that he represents a case of progressive muscular dystrophy.

The apparently healthy sister of this cripple married and had eleven apparently normal children, five boys and six girls. She died at eighty-four years of age, and her husband at eighty-nine. Four members of the second generation are no longer living. One died of cancer, one died aged forty-five years of unknown cause; one died at eighteen of tuberculosis; and one died of typhoid at eight years. Eight siblings, three males and five females had offspring; the known families varying from two to thirteen.

The third generation consists of forty-six known individuals: twenty males, eighteen females and eight whose sex is not known. Thirty-six of this generation are now living, and ten have died. Five siblings in one family died of tuberculosis, and three in another family died at birth. One died in childbirth and one was drowned. There is no individual in this generation with any suggestion of muscular dystrophy.

The known individuals of the fourth generation, which includes the five cases of dystrophy, consist of nine males and ten females, the offspring of seven members of the third generation, who were the children of the ninth and tenth in the series, born in 1867 and 1870 respectively. Five of these were females and two males.

The five children of the two males are all normal, while five of the fourteen children of the five females show the disease. Two of the children are only two years old so they may possibly still develop the disease, but at present they show no evidence of it.

It is unfortunate that information could not be obtained concerning the offspring of the earlier part of the third generation, but this was impossible.

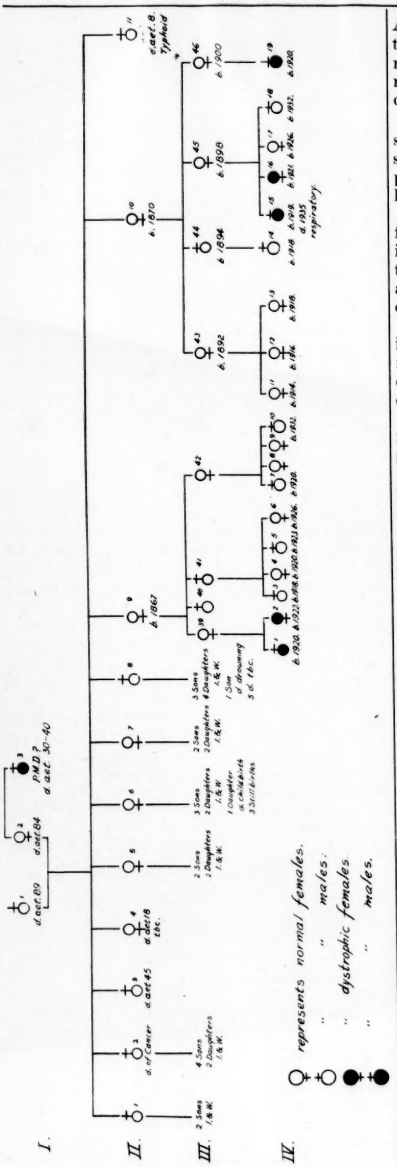
*Hough, Garry deN., Jr.—Assistant Surgeon, Shriners' Hospital for Crippled Children. For record and address of author see "This Week's Issue," page 1204.

## LITERATURE

As early as 1862 and again in 1869 Duchenne presented two brief pedigrees of families in which muscular dystrophy of the facioscapulohumeral type was transmitted as a mendelian dominant. These are quoted by Pearson[1] who presents two more family histories, one of the facioscapulohumeral type and one of the pseudohypertrophic form. In the first, the transmission was direct through the affected individuals for four generations.

Barker[2] in 1930 called attention to the fact that the hereditary transmission of the disease was a reliable method of differentiating certain types of progressive muscular dystrophy. He pointed out that the facioscapulohumeral type, to which the name of Landouzy-Déjerine has been applied, is commonly transmitted as a mendelian dominant. The more frequent Duchenne type in which the involvement with pseudohypertrophy first appears in the lower extremities Barker stated, was usually a recessive characteristic.

Minkowski and Sidler[3] in 1927 first called attention to the factor of parental consanguinity. They studied a series of cases of the disease occurring in an isolated village in Switzerland, where genealogical data were available over a period of 300 years. They found that all afflicted individuals were descendants of two families (R. and H.) among whom there had been many intermarriages. Progressive pseudohypertrophic muscular dystrophy appeared only when both father and mother were descended from both the R. and H. family, and the transmission was not sex linked. In this connection it may be noted that a high incidence of the disease has been observed among the French




Arcadians in Louisiana.* It is suggested that the intermarriage of similarly related families might be found among these people, who have maintained their traditions and identity over a considerable period.

A third type of family history has been presented in recent studies in which the transmission has followed the same course as in hemophilia. The unaffected daughter in these families transmits the disease to her son.

Dittrich[4] of Heidelberg has reported such a family history in which six cases have occurred in three generations. The transmission was twice through an apparently healthy oldest daughter and once through an apparently normal second daughter.

Voshell[5] of Baltimore has contributed a most interesting family history of ten cases occurring in four generations. He presents data concerning seventy-five descendants and in every case transmission was by the unaffected female.

In a recent contribution Kostakow[6] reports a family history of forty-nine individuals in four generations, fifteen of whom presented dystrophy. In this family, also, the inheritance was purely as a sex-bound recessive, appearing in the male children of apparently normal females. He cites references in the literature to this type of transmission (Bing[7]), and also as both a dominant (Weitz,[8] Riese,[9] Davidenkoff,[10] and Barnes[11]) and as a recessive (Weitz[8]).

## SUMMARY

The pedigrees of families showing progressive muscular dystrophy in the literature show that the hereditary transmission may be as a dominant, a recessive, or a sex-linked characteristic.

A family history presenting six cases of the disease, one of which is uncertain, is here reported. Seventy-nine known individuals are recorded. The transmission was in all cases in this family through an apparently normal female.

## CONCLUSIONS

1. There is increasing evidence to substantiate Barker's statement that the facioscapulohumeral or Landouzy-Déjerine type of progressive muscular dystrophy is transmitted as a dominant characteristic. As these individuals frequently live to sexual maturity, they should be warned against having offspring.

2. The more common pseudohypertrophic or Duchenne type of progressive muscular dystrophy is apparently transmitted through the clinically normal female members of the family, exactly as is hemophilia. Perhaps this is due to the fact that individuals with this type of the disease are almost always incapacitated

*Personal communication from Dr. Francis L. Fort, 1022 Park Street, Jacksonville, Florida.

before sexual maturity. There is sufficient evidence to prohibit reproduction by the apparently normal females in such a family, but to permit offspring to the apparently normal males.

3. The method of inheritance may be used as a basis of sound classification, as it is directly concerned with the prevention of the condition. This is important because one source of confusion in recent studies has been the inclusion of all cases presenting the syndrome of muscular dystrophy in one clinical group. This has been due to an effort to simplify our consideration of the condition and is based on the recognition that the original classifications founded on anatomical localization and the presence or absence of pseudohypertrophy failed to serve any useful purpose. However, the varying types of hereditary transmission as well as other evidence seems to prove conclusively that these cases are not all one disease entity.

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# MYXEDEMA FOLLOWING THE REMOVAL OF AN ABERRANT THYROID TUMOR*

BY J. G. PROBSTEIN, M.D.,† AND HARRY AGRESS, M.D.†

IT is extremely interesting that profound disturbances in thyroid metabolism, such as myxedema, are frequently attendant upon the removal of median aberrant thyroid tissue.[1] This phenomenon is strikingly in contrast with the extirpation of lateral aberrant thyroids. The discrepancy is best explained by differences in embryonic development. There is general concurrence of opinion that the pathogenesis of median aberrant thyroids is that of an arrested descent of the tissue along the thyroglossal duct tract from its origin at the thyroid tubercle to its ultimate resting place in the normal organism. That myxedema follows the removal of such thyroid tissue is readily appreciated, since it might well be the only thyroid present.

On the other hand, there is no such agreement concerning the pathogenesis of lateral cervical aberrant thyroids. It has been conjectured[2] that one, or possibly a combination, of three probabilities account for these moot elements, namely, (a) variations in the development and descent of the ultimobranchial bodies or "lateral anlagen", as inferred from the observations of Kingsbury[3] and of Norris[4], (b) migratory propensities of human thyroid tissue similar to that noted in salmonoid fishes by Gaylord and Marsh,[5] or (c) the separation of nodules from the parent thyroid observed in endemic goiter regions by Rendu, Stern and Beerholdt. (Quoted by Moritz and Bayless.[2])

Cattell[6] reports a patient in whom mild symptoms of myxedema with a normal basal metabolic rate existed pre-operatively and in whom mild hypothyroidism developed following the removal of a lateral aberrant thyroid tumor. Myxedema in such instances is unique and prompts the report of this case of total hypothyroidism following the extirpation of an unusually located cervical tumor mass.

## CASE REPORT

S. D., a seventeen year old, white female, appeared on July 13, 1932 at the Out-Patient Department of the Jewish Hospital complaining of a swelling, which had been present for two weeks, just to the right of the midline in the sublingual region. Her past history was interesting in that it was one of retarded development in infancy and early childhood. Her first teeth appeared at the age of two years and she did not start to walk or talk until four years of age. She was always somewhat mentally retarded as compared with other children in the family. Her menses started at the age of seventeen years, were irregular, scanty and painful.

At the time she first presented herself, her physical examination was essentially negative, except for the presence of a small painless swelling in the right sublingual region. Further observation and consultation were deemed advisable, and when she was seen again in several weeks, there was no change noted in the nature of the mass. The roentgenologist reported "a suspicious bony projection 'probably stone' in the sublingual region". Unfortunately, a basal metabolism was not taken before operation.

Exploratory operation was advised, with the following clinical diagnoses: (a) "Submental lymph gland," (b) "suspected obstruction of the sublingual ducts", (c) "hygroma", and (d) "thyroglossal duct cyst".

Operation was performed under gas-ether anesthesia August 9, 1932. A spherical soft tumor mass, approximately 3 cm. in diameter, was found superior

*From the David May Grant of the Jewish Hospital, St. Louis, Mo.

†Probstein, J. G.—Instructor in Clinical Surgery, Washington University School of Medicine. Agress, Harry—Hematologist, Jewish Hospital, St. Louis. For records and addresses of authors see "This Week's Issue," page 1204.

and superficial to the right wing of the hyoid bone. The mass was completely excised and the incision was closed by routine methods. Exploration for normal thyroid was not carried out because of our complete lack in considering a possible aberrant thyroid.

Pathological report: Grossly, the tumor was 3 cm. in diameter and was surrounded by a capsule. The purple color of the tumor was striking. Over the surface of the mass there were numerous small cysts containing a thin dark green fluid. The cut surface presented numerous minute cystic areas containing colloid material.

Microscopically, there were numerous cystic acini containing varying amounts of colloid. Some of the acini contained small button-like projections of cuboidal epithelium and occasionally definite papillary projections. Some of the larger acini were losing their epithelial walls and the boundaries of these sites were formed by connective tissue, which was focally increased. The interstitial colloid was moderate in amount. Lymphocytes were few. There was no evidence of malignant change.

Diagnosis: Thyroid (aberrant), papillary cyst adenoma.

Subsequent course. Her immediate postoperative course was uneventful and she was discharged to the Endocrine Clinic, where she was observed by Dr. Louis Cohen. The pertinent data following operation are presented in the accompanying table.

On September 2, 1932 she had a basal metabolic rate of minus 28 per cent, despite which she had no complaints, nor were there any physical signs of myxedema. Two and one half weeks later, or five and one half weeks postoperatively, she stated that she had had no menses since leaving the hospital, but had had no other subjective symptoms. Her face was definitely edematous, her hands and feet were cold, and her skin was pale and dry.

One month later she presented a classical picture of myxedema with complaints of ready fatigability, dullness, chilliness and costiveness. She had been amenorrheic for three months. Her pallor was very marked, and the skin, which was dry, cracked and scaly, had a yellowish tinge. There was a marked malar flush. The extremities were cyanosed and cold. The face was full and placid and later on, the eyelids became markedly infiltrated. Her speech was slow and thick. She had gained weight rapidly.

Despite the classical picture of myxedema, it was decided to observe her further without medication. Her picture continued relatively unaltered for the next two months. On November 30, 1932 a "double basal metabolic rate" determination was reported minus 24 per cent (resting) and minus 20 per cent (after luncheon and exercise). The following month she was started on thyroid extract (P.D.) gr. 1 twice daily and her picture returned to normal in a brief time. She has been observed closely since then and has remained normal as long as she adheres to the replacement therapy.

TABLE OF PROGRESS

| Date | B. M. R. | Pulse Rate | Temp. (Oral) | Wt. (Lbs.) | Remarks |
|---|---|---|---|---|---|
| 8/9/32 | | | | | Operation. Kahn neg. |
| 8/15/32 | Minus 23% | | | 100 | |
| 9/2/32 | Minus 28% | 74 | 98.2 | 107 | |
| 9/19/32 | | | | | No subjective symptoms. Suggestive physical signs of myxedema. |
| 10/14/32 | Plus 1% | 72 | 98.6 | 114¾ | |
| 10/19/32 | | 70 | | | Full blown myxedema. BP 100/60. |
| 10/26/32 | Minus 33% | 84 | 98.6 | 116 | WBC 8,000. RBC 4,240,000. Hgb 85%. |
| 11/23/32 | | | | | Blood calcium 10.4 mg. %. |
| 11/30/32 | Minus 24% | | | | B. M. R. minus 20% after lunch and exercise. |
| 12/14/32 | | 80 | 99.0 | 118 | |
| 12/28/32 | | | | | Thyroid extract (P. D.) gr. 5 t. i. d. |
| 1/11/33 | | | | 112½ | |
| 1/25/33 | Plus 15% | | | | |
| 2/2/33 | | | | | First menses since August, 1932. |
| 10/13/33 | | | | | Thyroid extract discontinued. |
| 10/16/33 | Plus 4% | 90 | | 105 | |
| 11/13/33 | Minus 22% | 84 | 98 | 108 | |
| 12/12/33 | Minus 32% | 72 | 98 | 110 | Myxedematous. |

COMMENT

There are three points of particular interest in this case, namely, location, pathology and the development of postoperative myxedema.

FIGURE 1.

Myxedematous facial appearance of patient on October 26, 1932.

The location of what proved to be a median thyroid away from the midline, as was true in this case, is unusual and even at operation this instance was considered one of lateral aberrant tumor. The dictum of Ulrich[7] that "discovery

of a lingual thyroid (and we might add, any suspected median thyroid) does not necessarily indicate active treatment" was not well taken in this instance. He urges that routine cervical exploratory operation for thyroid tissue in the normal position be performed before removal of an aberrant thyroid or any tumor in the neck which may always be thyroid tissue. On the other hand, the known "tendency (of lateral aberrant thyroids) toward a specific type of tumor formation"[8] and the malignant tendencies of this tumor[2, 6, 8, 9, 13] indicate complete removal. This is particularly desirable in view of the excellent postoperative prognosis offered.[6, 9, 10] Although malignant changes in median tumors have been reported[11, 12] their incidence is extremely rare, most of the median tumors being simple colloid goiters or normal thyroid tissue. The fact that our case was one of benign papillary cystadenoma would favor its classification among the lateral cervical group.

Myxedema is unique following the removal of lateral tumors. This fact alone leads us to place our case in the median group. Another fact in favor of this classification is the presence of a single mass, multiplicity[2, 9, 13] being the more common occurrence in the lateral group and even bilateral involvement being conjectured.[14]

SUMMARY

A girl, aged seventeen years, developed complete myxedema following the removal of a right suprahyoid aberrant thyroid, which was apparently the only thyroid tissue present. Her recovery was complete following replacement therapy.

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# MEDICAL PROGRESS

## RECENT PROGRESS IN PHYSIOLOGY

BY PERCY G. STILES, PH.D.*

VASOMOTOR Reactions of the Mucosa. A question long discussed in this connection has been reopened and fully examined by Spiesman.[1] The traditional teaching has been that a reciprocal relation is maintained between the vascular condition of the skin and that of the nasal and pharyngeal lining. According to this view the contraction of the surface vessels when the skin is chilled induces an engorgement of the mucous membranes. The resulting congestion has been held to have much to do with the "catching" of colds. The suggestion has been entertained that the primary active congestion becomes passive and that the resistance of the tissue to bacterial infection is lowered in consequence. Twenty years or more ago evidence was presented to show that the reaction of the respiratory membranes to cooling of the skin is quite opposed to what has been pictured. The observations of Spiesman support this conclusion: that the vasomotor changes in skin and mucosa are not contrasted but parallel.

The means employed to discover the behavior of the vessels consists in a thermal couple so secured as to keep a steady contact with the nasal lining. Cold applications are made on various parts of the body surface. It is found consistently that when a patch of skin is cooled the mucous membrane registers a shift in temperature in the same direction and not upward as would formerly have been predicted. Having fallen to a minimum the temperature of the nasal lining gradually returns toward the initial reading but almost always stops short of it showing a lasting effect of the cutaneous cold. It can be lowered again by transferring the cooling to a different area.

Tests have been made from day to day on several subjects who have from time to time developed colds. It appears that the vascular

*Stiles, Percy G.—Assistant Professor of Physiology, Harvard Medical School. For record and address of author see "This Week's Issue," page 1204.

reactions of the mucosa become modified when the symptoms of a cold are manifest. The assumption is made that colds may be either sterile or bacterial, the first being essentially an exaggerated vasomotor disturbance and the second founded on a bacterial or virus infection. Undertaking to distinguish the two in his volunteers Spiesman reports that the simple vasomotor rhinitis is a condition which features the traditional internal engorgement under the influence of external chilling. The more toxic type of cold does not show this reversal of the normal reflex constriction but the readjustment is said to be delayed. The impression is left with the reader that vasomotor changes are not so definitely the cause of colds as they are superficial signs of a change taking place in the tissues.

It has been shown that the sensory nerves concerned in the reaction to external cold are those of temperature rather than those of pain. Intense local cold is definitely painful but the noxious component can be suppressed by subcutaneous injection of butyn epinephrine solution. The responses to cooling of the analgesic area continue unaltered. The heating of a portion of the skin can be demonstrated to increase the blood-flow and hence the temperature of the respiratory membranes.

*Reflexes from the Skin as Affecting Skeletal Muscle Tonus.* This matter, readily linked with the last, has been dealt with by workers in the Yale Medical School.[2] It has long been taught that the depressing effect of stagnant air may be due in large part to the failure of such air to maintain the desirable type of stimulation of cutaneous end-organs to which we are accustomed. Mild air currents have been said to excite both the vasomotor effectors and the voluntary musculature. In default of this surface stimulation there is conceived to be a retarded return of blood to the heart. To an unfortunate extent it finds storage space at the periphery. Since the heart can obviously pass on only so much blood as it receives, the output to the arteries must be reduced and the tendency of the systemic pressure must be downward. These changes may well explain the drowsiness and the sense of inertia commonly associated with stuffy rooms.

The novel technique described in the paper here reviewed is offered as a means of estimating the varying tone of skeletal muscle. The value recorded is the pressure required to begin the intramuscular injection of sterile saline through a needle inserted into a selected muscle. The more complete the relaxation the more easily the inflow will be started. The effect of the general physical condition on muscle tonus may be judged from the following comparison. Two groups of ten each were examined, ten being in good health and ten patients confined to their beds. With the normal subjects the average pressure in millimeters of water necessary to begin the injection was 74; for the invalids it was 47. It is pointed out that muscles so softened will harbor a great deal of blood and this is an important factor in prostration.

To determine the effect of air currents on the muscle tone this injection test was made upon naked men lying in a warm room where drafts could be created when desired by turning on an electric fan. The change was definite; the resistance of the muscles to the entrance of water was always increased, commonly by 15 or 20 millimeters of the scale. There was no corresponding increase in the arterial blood pressure. The reaction is found to be based on the mechanical stimulation of the draft rather than on any cooling of the skin.

Supplementary experiments have shown that bathing the skin with carbonated water has a reflex effect on muscle tone in the same direction as that of air currents. This is to say that the entrance of injected saline into the muscles is hindered and it is fair to assume that blood is displaced into the veins. So far as the reaction of the skin is concerned it is opposite for carbon dioxide to what it is for a draft. The gas produces a flushing of the body surface which is evidently the sign of peripheral dilation.

*Compressed Air.* In a previous review reference was made to the limiting pressure of oxygen which can be breathed with safety. Human subjects have lost consciousness when remaining for forty-five minutes under an oxygen pressure of four atmospheres. This is nearly twenty times the normal atmospheric pressure of oxygen since the percentage in air is just short of twenty-one. In studies of compressed gases it is necessary to make allowance for the presence or absence of nitrogen from the mixtures. A recent communication[3] makes it possible to compare the effect of straight oxygen at four atmospheres (already indicated), with that of air having the same pressure. This air, such as might be sent to a diver 100 feet below sea-level, offers oxygen under a pressure of less than one atmosphere and nitrogen at more than three. It appears that nitrogen under such compression adds to the hazard of the situation.

Men remaining long in this compressed air have given evidence of mental confusion. The impairment of their powers of judgment and decision has been suggestive of the early stages of anesthesia. Since the oxygen pressure is far from being high enough to be responsible the rôle of the nitrogen calls for consideration. Among the physical properties of this gas there is noted its rather high solubility in bodies of the lipid group. Many if not all the volatile anesthetics are distinguished in the same way and their tendency to unite with fatty constituents of the nervous system has been invoked

to explain their narcotizing action. It is customary to speak of nitrogen as an inert gas but in this particular respect it may exert a definite pharmacological influence.

As nitrogen modifies the effect of compressed air during the period of inhalation so it figures in the risks of the subsequent decompression. The disturbances collectively called caisson sickness, compressed air illness, or "bends" have long been referred to the formation of bubbles in the blood and elsewhere as the result of too rapid easing of the external pressure. Both oxygen and nitrogen may conceivably share in this effervescence. But oxygen has the better chance of disappearing promptly from the tissues since their metabolism calls for it. There is no corresponding possibility of getting rid of nitrogen; its removal must be by way of the lungs and of necessity a gradual process.

When an animal has been subjected to severe compression and a quick reduction of pressure has followed, a great variety of symptoms may appear. Many of these are explicable as due to obstruction of the pulmonary circulation by minute bubbles described as nitrogen emboli. A renewed application of pressure, using either pure oxygen or air, may relieve the situation. The significant fact has been noted that such relief is less likely to be succeeded by fresh embolic signs when oxygen is used than when compressed air is employed. It seems rational to charge the "iron doctor" with oxygen or at least to limit its nitrogen content to that measured by the partial pressure of this gas in the atmosphere.

*The Cerebral Cortex and Heat Production.* It has been shown that decorticate warm-blooded animals preserve some power of temperature regulation although the function is more or less impaired. It has remained until now to determine the effect of cortical lesions on the metabolic rate. The communication to be summarized is from Rakieten.[4] In the cerebrum of the monkey, as in the human being, motor and premotor areas are distinguished standing in relation to the tension and use of the skeletal muscles. These areas have been removed in variously modified experiments and the metabolism of the surviving animals has been measured on the basis of oxygen consumed and carbon dioxide liberated.

The excision of both motor and premotor areas on both sides has been followed by an increase in metabolism, in proportion to surface area, amounting to from 15 to 30 per cent. The high level has been maintained for as long a period as seven weeks with no tendency to decline; therefore it can hardly be attributed to irritation. The nutrition of the monkeys has suffered in some degree but this would be expected to depress the metabolic rate. The rise is rather to be associated with the increased spasticity of the musculature which is characteristic of the condition. The observation calls to mind the fact that a large share of the influences exerted by the cerebral centers are inhibitory in their nature. This has long been recognized as regards muscular activity and it might have been predicted that it would be paralleled in metabolism.

In fact a paper has just been published by Rioch and Rosenbluth[5] which reopens the subject of cortical inhibition as exercised upon the lower motor mechanisms. It will be recalled that there are comparatively few parts of the cortex stimulation which can be relied on to call forth muscular movements. When, however, movements variously caused are going on, cortical excitation at numerous points will be found to check them. Furthermore it has been noted that stimulation of one hemisphere will often put a stop to muscular activity on either side of the body.

*The Rôle of Nerves Having Slow Conduction.* The fibers which are bound together in mixed nerves have lately been assigned to three classes, usually designated as A, B, and C. Those of the third type are the most slender, they are nearly or quite without myelin, and they are difficult to stimulate. In particular the impulses propagated along the C fibers are incredibly slow by all the standards of a few years ago; they may proceed at such rates as 1 meter per second. If all the fibers in a long nerve are stimulated at one end it will be clear that, as the impulses pass along, those in the fastest conducting (A) fibers will forge ahead and those in the C fibers will lag behind. Instruments are available to detect the flight of these disturbances as they pass selected points.

Using the techniques of electrophysiology Clark, Hughes and Gasser[6] have been able to analyze the activities of the different fiber groups in nerves of the cat. Means have been devised for blocking conduction along some of these without interfering with it in others. Differential studies show that when only the C fibers are functioning in afferent nerves it remains possible to obtain vascular and respiratory reflexes. When a stretch of nerve is subjected to asphyxia the C fibres are found to be the latest to become blocked. They are still in condition to convey impulses after forty-five minutes suspension of circulation.

Comparing this finding with what is known of the properties of human nerves the inference is encouraged that the C fibers include those responsible for sensations of warmth and pain. This is in the light of the fact that only these sensations persist after such an interruption of blood supply to a limb as suppresses the A and B components in the cat.

The study of action potentials in nerves, the experimental method just referred to, is more

and more employed in analyzing the details of various reactions. A curious example is afforded by a case of stuttering.[7] Galvanometric records were made from the two masseter muscles in the victim of the speech defect and from those of a normal subject. In the control there was a practical identity between the features registered on the right and on the left. In the patient the tracings were dissimilar; the faulty co-ordination found expression at the low level of the motor centers in the brain-stem. The curious question is raised of how high up among the superimposed levels of the nervous system the trouble may be supposed to originate. Does the thought of the unfortunate individual meet with the same interruptions which we find so painful in the halting vocal performance? In other words, are we to think of the cortex as stuttering or does it start well-ordered currents to the subcenters only to have them meet with derangement en route?

A large share of the current physiological literature pertains to vitamins, hormones and humoral agents. Obviously these have much in common and have ill-defined border lines. The part played by humoral compounds in the development of processes formerly charged to the direct action of nerves on their effectors is constantly discovered in new localities. A typical example may be mentioned. This is embodied in a paper by Bunting, Meek and Maaske.[8] The subject is the chemical control of the small intestine through the vagus nerve and its hormone, a substance having many of the properties of acetylcholine and perhaps identical with it. Two methods were employed; the first made use of an isolated intestinal loop which was under observation during vagus stimulation. The loop although no longer supplied with nerves was found to reproduce the motor activities of neighboring parts still subject to nervous control. This is good evidence of a humoral agent at work but does not indicate where it has been formed.

The additional information that the hormone is really to be obtained from the small intestine has been secured by perfusing the vessels of the gut and testing the power of the perfusate to inhibit the frog's heart. An effect could be produced which it was possible to reduplicate with acetylcholine in Ringer's solution. The inhibitory property was found to be characteristic of the perfusate returning from the small intestine even when the vagus was not stimulated but the degree of the effect was much increased by such stimulation.

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## ROCKY MOUNTAIN SPOTTED FEVER

According to the Department of Agriculture, three recent cases of Rocky Mountain spotted fever have been found near Washington, D. C. This disease is widespread and has a high mortality. The wood tick is the vector largely responsible for the spread of the disease. Dr. F. C. Bishopp of the United States Department of Agriculture has warned the public of the danger of the existing prevalence of these parasites here in the East especially in Maryland, Virginia, Delaware and North Carolina.

Spotted fever has been reported from many states in the Eastern part of the country, except in New England, Ohio, Michigan, Wisconsin and Mississippi.

These ticks attach themselves to dogs and other animals and hence may be transported to widely separated areas. In the far West a different species of ticks is responsible for spotted fever infection.

Further information with respect to the menace of ticks may be obtained on application to the United States Department of Agriculture.

## A PLAN FOR CONDUCTING MENTAL TESTS

The report is current in the daily press that psychiatrists are to be employed by the Federal Government to examine the mental condition of defendants in Federal Court proceedings.

The list of psychiatrists appointed to serve the Massachusetts Federal Courts is as follows: Dr. Joseph E. Barrett, Assistant Commissioner of the State Department of Mental Diseases; Dr. C. MacFie Campbell, Medical Director, Boston Psychopathic Hospital; Dr. Gerald F. Houser, Assistant Superintendent of Boston State Hospital; Dr. Frederick LeDrew, Senior Physician, Boston State Hospital; Dr. E. Houston Merritt, Jr., Boston City Hospital; Dr. Winfred Overholser, Commissioner, Massachusetts Department of Mental Diseases; Dr. Tracy J. Putnam, Boston City Hospital; Dr. Harry C. Solomon and Dr. Henry R. Viets both of Boston.

Selections from these appointees will be employed when desired by the Court.

## A NEW GENERATOR FOR X-RAY THERAPY

A new form of high voltage generator for x-ray outfits used in medical therapy, operating on radically new principles and with marked advantages and economy over previous types, has been invented and tested, and the first unit is being installed in the Huntington Memorial Hospital.—*Science*, May 29, 1936.

# CASE RECORDS
## *of the*
# MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

FOUNDED BY RICHARD C. CABOT, M.D.

TRACY B. MALLORY, M.D., *Editor*

## CASE 22241

### PRESENTATION OF CASE

A fifty-three year old native painter was admitted complaining of weakness and hiccough.

Three years before entry the patient had an attack of right-sided pleurisy which caused him to remain at home, but not in bed, under medical care for nine months. His illness was associated with marked weakness, slight cough, but no fever or chills. During this time there was aching pain in the right shoulder, arm, and elbow with some numbness of the fingers. This was termed neuritis. Thereafter all symptoms subsided and the patient felt very well until three months before admission. At this time he noticed increasing weakness of his legs and arms with some numbness of the fingertips and slight dull headache. There was no fever, cough, or pain. There was slight dyspnea on exertion. Three weeks ago, having been unemployed for some time, he succeeded in obtaining work. At this time he contracted a slight cough, which persisted and was associated with some hoarseness. Seven days before entry, upon his own initiative, he had six teeth extracted. He continued to work for three days afterward although he became very weak, felt dizzy and developed hiccough. The latter was continuous and, although he obtained some rest by means of soporifics, his wife stated that it continued during his sleep. His weight had decreased from 130 to 116 pounds during the preceding three months.

Physical examination showed a well-developed and nourished man hiccoughing at frequent intervals. Many small telangiectases were noted on the nose and cheeks. The right pupil was slightly larger than the left but they both reacted normally. The right disc was slightly more blurred than the left. There was inconstant lateral and vertical nystagmus. With transillumination the right antrum appeared less translucent than the left. Small epitrochlear nodes were palpable bilaterally. There was dullness over the right lower chest anteriorly and posteriorly and in this region tactile fremitus and breath sounds exhibited diminished intensity. No râles were heard. The heart was normal. The blood pressure was 110/72. The prostate was slightly enlarged and boggy. No other details were noted. The upper and right lower abdominal reflexes were absent. The patient showed a wide based gait but the tendon reflexes were all normal and no abnormal reflexes were elicited.

The temperature was 99.4°, the pulse 70. The respirations were 20.

Examination of the urine was negative. The blood showed a red cell count of 4,150,000 with a hemoglobin of 75 per cent. The white cell count was 3,400, 88 per cent polymorphonuclears. The smear showed no stippling of the red blood cells. No tubercle bacilli were seen in a specimen of saliva; sputum was not obtainable. The stools were negative. A basal metabolic rate was —1. A Hinton test was negative. The serum calcium was 7.85 milligrams and the phosphorous 2.5. An intradermal injection of 1:20,000 tuberculin showed a 9 millimeter raised area without erythema. The serum protein was 5.5 and the cholesterol was 175 milligrams. Agglutination tests for undulant fever and the typhoid group were negative. A lumbar puncture showed an initial pressure of 40 mm. Dynamics were normal. A cell count showed one lymphocyte. The alcohol test was positive and the ammonium sulphate faintly positive. The total protein was 48 milligrams and the sugar 77 milligrams. A Wassermann test of the fluid was negative.

X-ray examination of the chest showed dullness at the right base obscuring the costophrenic angle and lateral portion of the diaphragm. There was considerable thickening of the axillary pleura. In the lateral view the dullness lay posteriorly. There was indefinite mottling in the left first interspace. Another film two days later showed mottling in both infraclavicular regions. A film of the skull was negative as was a gastrointestinal series.

During his hospital stay the patient's temperature fluctuated between 98° and 101° and his pulse between 70 and 100. Further details elicited from his wife demonstrated the fact that he had showed drowsiness, slow slurred speech, and considerable headache during the preceding three months. Examination on the fourth hospital day showed the patient to be drowsy. His speech was slow and hesitant. The facies exhibited a mask-like quality. There was no nystagmus, and the pupils and fundi were negative. Deep reflexes were symmetrically active. Both abdominal and the right cremasteric reflexes were absent. There was no Babinski sign. The patient walked on a wide base and deviated to the right with his eyes closed. In the Romberg position he fell to the right and backward. His course continued relatively unchanged. The hiccough ceased occasionally and there were infrequent attacks of vomiting. On the sixteenth hospital day a lumbar puncture showed an initial pressure of 270. A cell count showed three lymphocytes and one polymorpho-

nuclear cell. The total protein was 44 and the qualitative tests for globulin were unchanged. On the same day a ventricular puncture was performed. Clear fluid was withdrawn from the left ventricle without evidence of increased pressure. The right ventricle could not be entered. The patient exhibited bradypnea after this procedure and his blood pressure dropped to 50/20. He was treated supportively and two days later a ventriculogram showed filling of all the ventricles. There was slight dilatation of both anterior horns and the third ventricle but no definite displacement. He became comatose and died on the following day.

## Differential Diagnosis

Dr. Donald S. King: This patient had two sets of symptoms—pulmonary and neurologic. Let us take up the two pictures separately, first the respiratory picture, and secondly the cerebral picture. Three years ago for a period of nine months he is said to have suffered from pleurisy accompanied by weakness, cough, pain in the right shoulder, pain in the right elbow, and numbness of the fingers, but all these symptoms cleared and he was free from symptoms for two years. This story, I should say, is consistent with tuberculous pleurisy. The pain in the right shoulder could be accounted for on the basis of a diaphragmatic refer, and I am inclined to discount the diagnosis of neuritis in the right arm. Three months before his admission to the hospital there were weakness and dyspnea and the start of a fourteen-pound loss in weight. Three weeks before admission cough and hoarseness began. The respiratory history is consistent with pulmonary tuberculosis which started with pleurisy followed two years later by a reactivation of a pulmonary process.

The physical signs are consistent with old tuberculous pleurisy at the right base. The temperature and pulse are those of an acute tuberculous process. If miliary tuberculosis were present it would probably not give any additional physical signs, so that the examination is consistent with old tuberculous pleurisy and acute miliary tuberculosis.

A tuberculin skin test was positive. There was a definite leukopenia and a high percentage of polynuclear neutrophiles. These blood findings are consistent with miliary tuberculosis and are occasionally responsible for the confusion of this disease with typhoid fever. The blood chemistry shows a low total protein, a low serum calcium and phosphorus, and a normal cholesterol. So far as I know, this chemical picture has no especial diagnostic value and is consistent with miliary tuberculosis.

The x-ray film in my opinion, Dr. Holmes, is consistent with tuberculous pleurisy at the right base and miliary tuberculosis at the apices. Do you agree with this diagnosis or do you feel that some other diagnosis is more likely or that the changes which suggest miliary tuberculosis should be discounted?

Dr. George W. Holmes: My interpretation would be about the same. The amount of change is not so marked as one would expect with a full-blown miliary tuberculosis. It looks more like an old infection or a rapid form of tuberculosis rather than true miliary.

Dr. King: We have only these two films. They are not far enough apart to tell whether the disease is progressing. I take it that the x-ray department does not believe this to be sarcoid, miliary carcinoma, miliary abscesses, fungus infection, and so forth.

Dr. Holmes: No.

Dr. King: The respiratory picture is then in my opinion consistent with old tuberculous pleurisy and miliary tuberculosis.

Now as to the neurologic picture. The "neuritis", which he had three years before, I am throwing out. During the three months before the hospital admission there were drowsiness, slurred speech, headache, weakness of the arms and legs, and numbness of the fingertips. After admission to the hospital there was a continuous stupor going into coma, increased weakness, vertigo, hiccough, and vomiting. If one has accepted the diagnosis of miliary tuberculosis, he would then naturally with these neurologic symptoms make a diagnosis of tuberculous meningitis. It is perfectly consistent for the symptoms to drag for three months or even more.

The neurologic examination showed mask-like facies, a wide based gait, absent abdominal and right cremasteric reflexes, and a deviation to the right when the patient walked with eyes closed. In the "Romberg position" the patient is said to have fallen to the right and backward. I cannot on the basis of this neurologic examination localize a central nervous system lesion. It does not seem to me like a cerebellar tumor, and, as you will see later, the service was looking for tumor in the region of the ventricles.

Lumbar puncture showed at first a low pressure of 40 and later a high initial pressure of 207. Examination of the spinal fluid showed the protein and sugar to be slightly elevated. I am sorry that there is no report of the sugar found in the fluid taken at the second examination. A determination of the amount of sugar is helpful in the diagnosis of tuberculous meningitis since there is usually a progressive fall in sugar though it may have been high at the onset. The protein was unchanged in the second examination. There is no mention of a fibrin clot or a search for tubercle bacilli in the spinal fluid.

The ventriculogram, as I understand it, is normal. I do not know how much stress to put on the fact that at the time of puncture the right ventricle could not be entered since later examination showed that this ventricle did

fill with air. We will have to ask the neurologists about this point.

On the neurologic side then it seems to me that the evidence is against tuberculous meningitis because the spinal fluid examination showed a normal cell count and a normal sugar so far as these examinations were made. There is no definite evidence of a tumor involving the walls of the ventricle. There are no characteristic cerebellar symptoms. If, then, one is trying to make a single diagnosis with an etiological factor that would explain both the respiratory and central nervous symptoms and had already made up his mind that there was miliary tuberculosis in the lungs, the natural conclusion would have to be that the cerebral symptoms were due to a tuberculoma rather than meningitis. Just where the tuberculoma is located, I will not attempt to say. There is no proof that it is near the ventricle or in the cerebellum. I should guess that it was a cerebral tuberculoma.

I do not believe that we are dealing with other disease conditions which might give the two sets of symptoms in the lung and brain, these possibilities being bronchiogenic carcinoma, pulmonary abscess, or hypernephroma with metastases to both lungs and brain.

My final diagnosis would then be (1) old tuberculous pleurisy, (2) acute pulmonary tuberculosis of the miliary type, (3) cerebral tuberculoma, (4) generalized miliary tuberculosis with only slight if any involvement of the meninges.

Dr. Gerald Blake: At entrance this man did not look very ill. He looked sleepy, was well nourished, and not complaining of anything except his three months of weakness, ten days' headache and more recent hiccough. His subjective symptoms were slowness of speech, which he said he had always had but which the family said had increased within the last three months. He also had blurring of the right disc, nystagmus and noticeable lassitude. The signs were, as described, of a healed process at the right base and the early process by x-ray at the apices. It was impossible to say whether that was active or not. We did not get much help from the first lumbar puncture and his course was gradually downhill with rather few changes in the neurologic signs. Following the second lumbar puncture within fifteen minutes he stopped breathing and then for about half an hour he breathed three or four times normally, and then would stop for fifteen or twenty seconds; not the Cheyne-Stokes type, but an abrupt stopping and abrupt beginning, without much change in color. He was stimulated and continued to breathe in this way. The neurologic service saw him again and took him over for further investigation.

### Clinical Diagnoses

Pulmonary tuberculosis.
Coma, undetermined origin.

### Dr. Donald S. King's Diagnoses

Old tuberculous pleurisy.
Acute pulmonary tuberculosis of the miliary type.
Cerebral tuberculoma.
Generalized miliary tuberculosis with only slight if any involvement of the meninges.

### Anatomic Diagnoses

Miliary tuberculosis of the lungs.
Pleuritis, chronic fibrous, right.
Solitary tubercle of the medulla.
Tuberculosis of the adrenals, bilateral.
Atherosclerosis, slight, aortic and coronary.
Operative wound: Ventriculography.

### Pathologic Discussion

Dr. Tracy B. Mallory: Members of the neurological service were evidently not very anxious to commit themselves on this patient. Various possibilities were suggested such as a lesion in one of the cerebral hemispheres, possibly tuberculoma, possibly abscess or tumor. Later another note in the record says that the symptoms appear to be due to medullary compression.

The autopsy showed the old fibrous pleurisy and the widespread miliary tuberculosis which were predicted. The tuberculoma was also found, though no one had succeeded in localizing it. It was not quite a centimeter in diameter and lay in the right side of the medulla just in the region of the olive. There was no meningitis. The surprise of the autopsy was the finding that both adrenals were almost completely replaced by large tuberculous masses. Only a small fragment of the cortex about half a centimeter in diameter was left undestroyed. That alone stood between this patient and Addison's disease.

## CASE 22242

### Presentation of Case

A fourteen year old white native schoolgirl was admitted complaining of pain in the left knee.

About one month before entry the patient began having pain in the left knee which was followed in a few days by slight swelling and limitation of motion. The pain occurred first in the popliteal region but after one week appeared anteriorly as well. Walking caused no increase in discomfort but standing for a short period produced aching pain along the lateral aspect of the thigh and calf. Tenderness gradually ensued and the pain became constant both night and day. It was worse between 5:00 and 7:00 A.M., when it became rather throbbing in character. As limitation of motion progressed the patient became unable to walk up or down stairs. No history of contributory trauma was obtainable.

Physical examination showed a slender slightly undernourished girl in no acute discomfort. Except for the left lower extremity the examination was essentially negative. The affected knee was held by preference in approximately 150° extension; it could not be further extended but could be flexed to 80°. The leg was normal but the knee showed a visible fullness extending up and about the thigh for a distance of three inches above the joint. At the upper margin of the patella the circumference was fourteen and a half inches compared with twelve and a half inches on the right. Some evidence of fluid in the joint was elicited. The external femoral condyle was enlarged, bony in consistency, and exquisitely tender. There was tenderness to a lesser degree about the remainder of the knee. On a later examination tenderness and bone-like overgrowth could be indistinctly made out on the interosseous margin of the upper end of the tibia just lateral to the patellar tuberosity. The inguinal lymph nodes were not remarkable.

The temperature, pulse, and respirations were normal.

Examination of the urine showed a specific gravity of 1.020 with a faint trace of albumin and a positive reaction to the Benedict's test. The degree of this reaction was not noted. Tests for diacetic acid were positive. Examination for Bence-Jones bodies was negative. The blood showed a red cell count of 4,400,000, with a hemoglobin of 100 per cent. The white cell count was 8,600, 60 per cent polymorphonuclears. Tuberculin and Hinton tests were negative. The serum calcium was 10.8 milligrams and the phosphorus 5.00. The phosphatase was 8.6 units, Bodansky method.

X-ray examination showed a fusiform soft tissue thickening surrounding the lower end of the femur. The cortex in the involved area was eroded and at the margins of the lesion on the shaft the periosteum was separated and exhibited typical lipping. There was ray spicule formation but no bone atrophy and the joint was not involved. A similar lesion was present at the upper end of the tibia, posteriorly and laterally. This also showed spicule formation and elevation of the periosteum. No definite soft tissue tumor was identified. Films of the bones, skull, and the chest showed no significant abnormality. Later films showed, in addition, bone destruction in both tumors.

On the ninth hospital day, operation was performed.

## Differential Diagnosis

Dr. Joseph S. Barr: This is the case history of a fourteen year old white schoolgirl who began to have pain in the left knee four weeks before entry. The onset was insidious without history of trauma. At first localized to the popliteal space, the pain gradually spread until the whole knee was involved. There was no particular change in the amount of discomfort caused by change in position or by weight bearing. The pain was throbbing in character, present night and day, and seemed to be worse early in the morning. The knee began to flex, motion was limited, and finally the patient was unable to walk.

This history is suggestive of a malignant process or of a subacute infectious process such as tuberculosis or Brodie's abscess. The history of disability in children is notoriously unreliable, and the diagnosis hinges much more on the physical findings and laboratory tests than on the history. On physical examination nothing remarkable was noted except for the left lower extremity. The knee showed definite limitation of both flexion and extension. There was apparently a slight excess of fluid in the joint. The lower end of the femur was enlarged, the swelling being bony in consistency, and exquisitely tender. There was less definite tenderness about the remainder of the knee. The vague findings in the tibia will become significant when interpreted in the light of the x-ray examination. The temperature, pulse, and respirations were normal. Examination of the urine showed a faint trace of albumin, and the Bence-Jones reaction, as one would expect, was negative. The positive reaction to Benedict's test and the presence of diacetic acid can have no significant relationship to her bone lesions. Blood examination was essentially negative except for slight anemia. We note the white cell count of 8,600, with only 60 per cent polymorphonuclears. The tuberculin and Hinton tests were negative. The serum calcium was 10.8 milligrams, phosphorus 5 milligrams per 100 cubic centimeters, and phosphatase 8.6 units.

These data yield us definite information and serve to rule out some of the diagnostic possibilities. Tuberculosis will practically always give a positive tuberculin test unless there is an overwhelming infection present, which would not seem to be so in this case. A single negative Hinton test does not eliminate the possibility of lues, but makes it unlikely. The normal temperature and pulse with a normal white cell count and differential would seem to rule out pyogenic infection. On the other hand, the physical examination and laboratory studies are entirely compatible with the diagnosis of primary malignancy, presumably of the lower end of the femur. Osteogenic sarcoma is most common in this age group, and this is a perfectly typical history and physical examination of such a case. The phosphatase is moderately elevated in this case, and I believe that is true of malignancy involving epiphyses.

The extraordinary interest in this case centers around the x-ray examination. The appearance of the lower end of the femur is quite characteristic of primary osteogenic sarcoma. The cortex is eroded. The periosteum is sep-

arated and there is typical ray spicule formation without involvement of the joint, but a similar lesion is also present in the upper end of the tibia, particularly evident on its posterior and lateral aspects. X-rays taken eight days after the original films showed increased bone destruction in both the tibia and the femur. If either the lesion in the femur or the tibia were there alone, the only reasonable diagnosis would be osteogenic sarcoma. To have two primary bone tumors developing simultaneously must be extraordinarily rare. I know of no such case reported in the literature. Simultaneous development of tumors in brothers and sisters has been reported. I can think, however, of no alternative diagnosis which would give this characteristic picture. Metastatic bone lesions in this age group are rare and no primary focus was found on physical examination. I presume that one of these two lesions might be primary with secondary involvement of the other bone by direct extension through the soft tissues around the joint. This occurs rarely if ever, as the mechanism of dissemination through the blood stream or lymphatics does not permit of direct extension past a joint line into the adjacent bony structure. I am, therefore, forced to make a diagnosis of a double primary bone malignancy, in spite of the fact that I have never heard of such a case occurring.

If this diagnosis is correct, the prognosis is practically hopeless, for in this age group the primary osteogenic sarcomas are uniformly rapidly fatal.

DR. CHANNING C. SIMMONS: I should agree with the foregoing remarks of Dr. Barr with one exception; that is, as to the prognosis. It is admittedly bad but there are on record in this hospital several cases of proved osteogenic sarcoma living without disease five or more years after operation.

As a matter of record it is interesting to note that twelve days after amputation the blood phosphatase fell to 2.68 units, Bodansky method.

### PREOPERATIVE DIAGNOSIS

Osteogenic sarcoma of the left leg.

### DR. JOSEPH S. BARR'S DIAGNOSIS

Primary malignant bone tumor, lower end of the left femur and the upper end of the left tibia; probably osteogenic sarcoma of the osteoblastic, osteolytic type.

### PATHOLOGIC DIAGNOSIS

Osteogenic sarcomas of the femur and tibia.

### PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: The unusual clinical picture which the patient presented naturally aroused a great deal of interest and Dr. Codman was appealed to for an opinion about it. He wrote the following note:

"The films seem typical of osteogenic sarcoma in both the femur and tibia. I have never seen juxta-epiphyseal syphilis have this appearance, although it occurs above and below the knee as this does it is usually chiefly osteolytic. If the Wassermann is negative amputation is indicated. Within a year I saw an article in the *Journal of the American Medical Association* reporting a number of instances of osteogenic sarcoma in the same family of children. In one case, I think, two tumors occurred in the same patient. I know of no other case of the kind."

Other opinions which were suggested naturally included metastatic involvement of the bones and also Ewing's tumor. The x-ray pictures, however, were much more typical of osteogenic sarcoma than of Ewing's tumor and the patient did not show the febrile reaction which is so common with this tumor.

After a week of study she was operated upon by Dr. Simmons. A biopsy of the femoral tumor was done and following a frozen section diagnosis he did an amputation just below the lesser trochanter of the femur. When the two bones were dissected out in the laboratory we found osteogenic sarcomas of both the femur and the tibia. The tumor of the femur encircled the shaft for a distance of 10 centimeters, beginning at a point 1.5 cm. above the lateral condyle. The tumor of the tibia was on the lateral surface of the upper third of the bone and projected chiefly into the interosseous space so that it was naturally difficult to make out on physical examination. No evidence of any connection between the two masses could be found and the knee joint was not invaded by either tumor.

On microscopic examination there was a considerable difference in the histologic character of the two tumors. The one from the femur would do well for a textbook illustration of a typical osteogenic sarcoma. In various areas it showed pure fibroblastic zones, islands of relatively well-differentiated cartilage, lamellae of osteoid material, and trabeculae of well-formed bone. The tumor from the tibia in contrast showed no trace of cartilage or bone formation and appeared to be entirely fibroblastic in its differentiation. It contained a very high number of multinucleated tumor giant cells. That it too, however, should be classed in the general group of osteogenic sarcomas admits of little doubt in view of its location and gross character. This is the first case that any of us have seen of multiple osteogenic sarcomas in a single patient and, as Dr. Codman has pointed out, cases are extremely rare in the literature and in the material of the registry of bone sarcomas.

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## CONTRARY OPINIONS RESPECTING THE USE OF ANALGESIC DRUGS IN CHILDBIRTH

AT the annual meeting of the American Medical Association in the section on obstetrics and gynecology three papers were read this year on methods for the amelioration of labor pains. These contributions were made by physicians of ability and judgment, working in well-organized clinics and all included a sufficiently large number of cases to be of value. A discussion arose which, if reports in the lay press are true, was characterized by considerable vigor, and appeared at times to have been slightly tinged with acrimony. Those who dissented did not hold that the methods described were inefficient; their contention was that it was wrong to relieve the pains of childbirth. Such a mental attitude recalls the protest by the established Church of England which greeted Sir James Young Simpson's use of chloroform for that purpose in 1847. The objection raised eighty-nine years ago was that of impiety and the aid was invoked of the third chapter of Genesis where it is written that women should bring forth children in sorrow. Continuing this same unworthy spirit of revenge upon Eve for her misdemeanors in the Garden of Eden it was decreed that all of her daughters should endure the same unpleasant experience. Today, possibly because not so many people are familiar with the Bible, the attack has shifted from the soul to the psyche. We are told that if a woman is prevented from enjoying the pains of childbirth it may cause great damage to her personality, and the development of nervous disorders will be the price for an escape from reality. Although the pains of labor are apparently beneficial to the woman who is so fortunate as to enjoy them, we are also told that they may be made to vanish if the fear of childbirth is eliminated by suggestion both in the prenatal period and during labor by careful explanation of their physiology. An individual who has sufficient powers of persuasion to convince a parturient woman in full cry that she is mistaken, that she is not suffering at all, or who can induce a light anesthesia by a bedside description of the autonomic nervous system has gifts that are wasted in the practice of medicine.

It was further stated that the use of analgesic drugs produced high maternal and fetal mortalities, although no statistics were given to substantiate these contentions, nor are any such figures available in the literature. Since no proof of these serious charges were given we must accept them solely as the personal opinions of those who advanced them and assign to them as much or as little value as we please. If the experience of one Boston hospital is of any importance it may be of interest to note that during the years that analgesic drugs have been largely used the neonatal death rate from intracranial hemorrhage has fallen to less than one third of its former figure while the death rate from atelectasis and asphyxia has remained unchanged. Such results do not indicate that the use of these drugs has led to violent operative deliveries, nor do they show that more babies have died because they were employed. On the other hand, it is the opinion of many that analgesics, properly used, protect the interests of both mother and infant since the knowledge that the patient is not suffering enables the obstetrician to await the normal conclusion of labor and removes any temptation, because of her agony and importunities, to operate too soon.

One needs but to question a few women who have had babies without any anesthetic and have had a subsequent delivery under analgesic drugs to be convinced that such methods are in the nature of a great blessing. It would require much argument to convince these women that

they did not suffer at their prior deliveries, or that it was good for their nervous systems, or that they should have their next child without anesthesia.

While the benefits derived from analgesic drugs are great, they should be used by the proper persons, in the proper patients and in the proper places. Physicians who employ these drugs should be trained in their use and should be thoroughly familiar with their pharmacological action. Once medication has been given, the physician must be with the patient or on ready call. From the time the drugs are first given until the patient is fully awake she must never be left unattended by a nurse who must be thoroughly familiar with the use of these agents. These drugs are never to be used in the patient's home; they belong essentially to hospitals with good maternity departments. These methods are not recommended for practitioners who do obstetrics as part of a general practice and who lack the time and experience to carry them out, nor are they advocated for the small hospital with an occasional obstetrical case. These methods, moreover, are not suitable for abnormal cases, and they may prove dangerous when employed in the presence of respiratory infections or when the patient has recently eaten.

## THE CYTODIAGNOSIS OF MALIGNANCY

It has long been claimed by McCarty of the Mayo Clinic that the malignant cell has one pathognomonic characteristic, a very large nucleolus, far larger than occurs in most normal cells. Several of his students have confirmed this diagnostic point. However, remembering the large nucleoli of the liver parenchymal cell and the nerve cell, most pathologists have been reluctant to regard nucleolar size as specifically diagnostic of malignancy. In fact, most of them are unwilling to make any differentiation between malignant and benign cells on cytologic characteristics alone.

Research for specific stains for malignant cells has met with the same degree of success as would be expected from any other rainbow-end quest. Lewis[1] in summing up the characteristics of the malignant cell in contrast with the benign was forced to depend on the time-honored criteria of anaplasia, of abnormal mitotic forms, and of altered function. However, any or all of these can be duplicated in repair. Thus, in simple epithelial repair of the skin we see loss of differentiation, rapid growth, mitotic activity, very occasionally even with abnormal mitoses occurring.

An interesting report in this regard is made by Foote[2] who found that the degree of accuracy in distinguishing malignant from benign ascitic fluid was only 70 per cent, using all available criteria for differentiating malignant and nonmalignant cells. His conclusion was that in the absence of clear-cut histologic organization, that is, the formation of glandules or cell clusters, the differentiation of malignant and nonmalignant cells was uncertain.

This difficulty of distinguishing cells has considerable bearing on the practical value of the so-called punch biopsy advocated by a few pathologists and some surgeons. The punch biopsy, if it obtains only isolated cells, rather than a definite plug of tissue, is of low reliability. Its chief value lies in instances where the diagnosis of malignancy hinges, not on the recognition of the detail of cells involved, but the finding of cells of specific character in a given site. Thus, if the patient has had cancer of the lip and keratinized epithelial cells are obtained from a punch biopsy of a neck node, it is a reasonable assumption that metastasis of cancer of the lip has occurred to the node. On the other hand, if one obtains poorly differentiated lymphocytes from the node, the diagnosis of lymphoma certainly would not be justified, even though mitotic figures may be present. All in all the assumption seems justified both on theoretical grounds and from practical experience that the diagnosis of malignancy from a single cell is highly inaccurate and may react unfavorably on the welfare of the patient.

REFERENCES

1. Lewis, W. H.: Science **81**:545 (June 7) 1935.
2. Foote, N. C.: Am. Assoc. Path. & Bact. (April 16) 1936.

## AN ANTHROPOLOGIST SPEAKS HIS MIND

Dr. E. A. Hooton, professor of anthropology at Harvard University, speaking before the American Association of Physical Anthropologists in New Haven last month, demonstrated that no justification exists for the preferment of Nordic and Aryan stocks among the recognized racial types. A study carried on at Harvard among three social groups—"the cream of the population," the middle class and the criminal class, according to a dispatch to *The Boston Herald*, showed that the racial types were represented in the same proportion in all three groups.

Maintaining that every racial strain should be purified by sterilization of its criminal, insane and diseased, Dr. Hooton denounced as "ridiculous and pernicious" the "doctrines of racial inequality which have become a menace to the peace of the world and have brought tragedy upon millions." Every one of our so-called racial types in the series studied, according to Dr. Hooton, is represented by a substantial body of convicted felons at one end and a group of eminently respectable and intelligent citizens at the other.

In the words of the speaker, "one does not need to be an anthropologist to recognize that there is rampant, not only in this country but elsewhere in the world, a selfish stupidity, which reeks of human decay and degeneration. It manifests itself in some quarters by brutal oppression of minorities selected for ill treatment on account of religious, linguistic or fancied racial differences.

"Elsewhere it is expressed in shameless aggression against defenseless primitive peoples. Here in the United States it is horribly evident in maudlin sympathy for criminals and in the toleration of crime that seems to characterize the mass of our population, in the looting of our national treasury in the name of patriotism, the wasting of our resources for political patronage, and even perhaps in muddle-headed efforts at national planning and regimentation, which bid fair to reduce us to the unfortunate economic status of those fabled inhabitants of the Scilly islands, who were 'forced to eke out a precarious livelihood by taking in each other's washing'."

## THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

BRANCH, CHARLES D. A.B., M.D. University of Michigan Medical School 1931. Resident Surgeon, Peter Bent Brigham Hospital. Instructor in Surgery, Harvard Medical School. Address: 721 Huntington Avenue, Boston. Associated with him is

ZOLLINGER, ROBERT. B.S., M.D. Ohio State University College of Medicine 1927, F.A.C.S. Junior Associate in Surgery, Peter Bent Brigham Hospital. Associate in Surgery, Harvard Medical School. Address: 721 Huntington Avenue, Boston. Their subject is Acute Cholecystitis. A Study of Conservative Treatment. Page 1173.

FITZ, REGINALD. A.B., M.D. Harvard University Medical School 1909. Associate Professor of Medicine, Harvard Medical School. His subject is From Cow-Path to State Road. Page 1178. Address: 721 Huntington Avenue, Boston.

HOUGH, GARRY DEN., JR. B.S., M.D. Harvard University Medical School 1921. F.A.C.S. Assistant Surgeon, Shriners' Hospital for Crippled Children, New England Unit, Springfield. Orthopedic Surgeon, Wesson Memorial Hospital, Springfield. His subject is The Hereditary Aspect of Progressive Pseudohypertrophic Muscular Dystrophy. Page 1189. Address: 146 Chestnut Street, Springfield, Mass.

PROBSTEIN, J. G. M.D. Loyola University School of Medicine 1917. F.A.C.S. Instructor in Clinical Surgery, Washington University School of Medicine. Associate Surgeon, Jewish Hospital. Attending Surgeon, St. Louis County Hospital. Address: Jewish Hospital, St. Louis, Mo. Associated with him is

AGRESS, HARRY. B.S., M.D. Washington University School of Medicine 1932. Hematologist, Jewish Hospital, St. Louis. Address: Jewish Hospital, St. Louis, Mo. Their subject is Myxedema Following the Removal of an Aberrant Thyroid Tumor. Page 1191.

STILES, PERCY G. S.B., Ph.D. Assistant Professor of Physiology, Harvard Medical School. Assistant Editor, Biological Abstracts. His subject is Recent Progress in Physiology. Page 1193. Address: Harvard Medical School, Boston.

## MASSACHUSETTS TUBERCULOSIS LEAGUE

### GREETINGS BY DR. HENRY D. CHADWICK, STATE COMMISSIONER OF PUBLIC HEALTH

**After reviewing the progress of tuberculosis work in Massachusetts, Dr. Henry D. Chadwick, State Commissioner of Public Health, spoke of the 200 new beds at Westfield State Sanatorium of which one fourth are for cancer and three fourths for tuberculosis. He also mentioned the 150 new beds in the Middlesex County Sanatorium, as well as the new nursing home in Norfolk County Hospital which will release some ten beds for patients in that institution. In each project 45 per cent of the cost is paid from the Public Works Administration.**

**Dr. Chadwick pointed out that Massachusetts has 2.4 beds per annual death prior to use of this new construction, so this state will be well equipped to hospitalize its tuberculous. It will greatly reduce the centers of tuberculosis infection in the communities. In this connection may be mentioned that few states have yet passed the national goal of tuberculosis workers for two hospital beds per annual tuberculosis death.**

### THE PREVENTION AND CONTROL OF TUBERCULOSIS IN THE COMMONWEALTH OF MASSACHUSETTS WITH SPECIAL REFERENCE TO THE ACTIVITIES OF THE MASSACHUSETTS TUBERCULOSIS LEAGUE*

BY FREDERICK T. LORD, M.D.

We meet to celebrate the twenty-third anniversary of the establishment of the League.

During the past year Mr. Frank Kiernan resigned after ten years as Executive Secretary of the League

*President's Address presented at the Annual Meeting, at Springfield, April 8, 1936.

to accept the position of Executive Secretary of the New York Tuberculosis and Health Association. During his term of service the machinery of the League and its affiliated organizations operated efficiently and smoothly and we owe much to his leadership, organizing ability, energy and enthusiasm. His place has been taken by Mr. Arthur J. Strawson, who acted as Field Secretary for the National Tuberculosis Association for a number of years and who resigned his position as Executive Secretary for Southern Worcester County to come to us.

During the past year Miss Jean V. Latimer, Educational Secretary for seven years, resigned to take a position in another field. Through her efforts valuable progress was made in increasing the interest of school authorities and the public in child health education. Her Teaching Units on Tuberculosis for Secondary Schools is now used in many large cities of the country. Miss Elna I. Perkins succeeds Miss Latimer as Educational Secretary.

### THE MASSACHUSETTS STATE HEALTH COMMISSION

In 1935, in accordance with an act of the Legislature of May 10, His Excellency, Governor Curley, appointed a commission to collect data and make recommendations concerning a revision of the Public Health Laws of the Commonwealth. The Commonwealth Fund of New York generously contributed $10,000 to defray expenses. Various aspects of matters pertaining to Public Health have been assigned by the commission to subcommittees. Among these, a subcommittee on Tuberculosis Control was appointed. This subcommittee has under consideration and will make a report to the Commission on the incidence of tuberculosis, case-finding, facilities for and adequacy of sanatorium treatment, rehabilitation services, health education, volunteer agencies, summer health camps and preventoria, open-air schools and medical education as it relates to tuberculosis.

An extended discussion of these matters is, therefore, unnecessary and I confine my remarks to a brief statement of the present situation with respect to the declining mortality, institutional care, tuberculosis dispensaries and case-finding.

### DECLINING DEATH RATE

The rates of mortality and morbidity from tuberculosis continue to fall in spite of the severe industrial depression and there is the prospect of the practical elimination of the disease as a serious public health problem. The favorable showing is to be ascribed to environmental rather than natural factors. Improved standards of living and a diminishing amount of community infection through education and hospitalization are largely responsible.

In Massachusetts, the case-fatality rate for pulmonary tuberculosis has fallen from 395 per 100,000 living in 1857 to 43.8 in 1934 and 41.6 in 1935. Considering actual figures, there were 1814 deaths from the disease in 1935 and estimating nine cases per death, there are about 16,000 patients to be cared for and prevented from infecting others.

In spite of the encouraging decline, tuberculosis is still a major public health problem and the chief cause of death from disease in early adult life. New methods of attack maintain an unabated demand on our resources.

### INSTITUTIONAL CARE

Adequate facilities for hospitalization are essential and accomplish the double purpose of the elimination of spread of the disease by contact and the promotion of recovery through the application of modern therapeutic measures. There are in Massachusetts 4500 beds in federal, state, county, municipal and private institutions, or 2.48 beds per death. Enlargement of the Middlesex County Sanatorium and the Westfield State Sanatorium by 150 beds each may be expected to provide a sufficient total provision to meet the needs of the state.

The state and county sanatoria have, on the whole, furnished adequate and easily available service. Some of the tuberculosis hospitals in cities or towns have on the other hand been handicapped by small size and inability adequately to apply collapse therapy. Two of these institutions have been deprived of the subsidy of five dollars per week for indigent patients because of failure to comply with standards imposed by the State Department of Health. It would seem best eventually in the interest of economy and of quality of service, with few exceptions, for cities and towns to transfer the responsibility for the care of tuberculous patients to the state or county sanatoria in their respective districts.

### TUBERCULOSIS DISPENSARIES

It is now no longer necessary for towns of 50,000 population and over to maintain tuberculosis dispensaries and it would seem desirable in the interest of economy and of efficiency of service for cities and towns, with few exceptions, to shift the responsibility for diagnostic service to the state or county sanatoria.

### CASE-FINDING

Early diagnosis, of extreme importance to the patient and the community, is in large measure a failure when dependence is placed on the patient to present himself for investigation and without the routine use of the x-ray. Significant symptoms and physical signs are frequently lacking in the early stages of the disease and it seems desirable to select easily available groups and those with more than the usual chance of the disease for investigation.

In the continuing project following the termination of the Ten-Year Program in June, 1934, facilities are available for the routine examination annually of children in the seventh, ninth and eleventh grades. In a few of the larger cities the examination of school children is carried out under the direction of local boards of health. The state and county sanatoria furnish neighborhood service on request from the local board of health and the school committee.

Where towns are near enough, the work is done at the sanatorium. For the more remote towns in the district a traveling clinic from the sanatorium is available. For isolated communities where the sanatoria are unable to furnish such service, the State Department of Public Health provides portable x-ray units and a clinic unit until the entire responsibility can be taken over by the local community.

The family contacts of tuberculous children and of tuberculous patients in sanatoria and in the practice of physicians should be investigated, including an x-ray examination.

As a matter of protection for children, all school teachers should have an x-ray examination or be tested with tuberculin and the reactors x-rayed. School teachers with active tuberculosis should not be permitted to teach. All diabetics should have an x-ray examination when the diagnosis is made.

### MEDICAL EDUCATION

The success of measures for the prevention and control of tuberculosis in the community depends in large measure on the participation in the program of adequately trained physicians in general practice. The standards of medical education and licensure in Massachusetts are too low. In consequence, physicians may still enter practice inadequately equipped. At least two years of pre-medical college training are desirable. Of six medical schools in the country incapable of the proper education of medical students, two are in Massachusetts.*

### LICENSURE FOR PRACTICE

Graduation from medical schools of approved standing is the most important qualification for practice, but Massachusetts is one of sixteen states in the Union in which graduates of unapproved medical schools are licensed to practice.

Massachusetts is among the worst offenders with respect to qualifications for practice as no attention is paid under the present law to the scope or quality of instruction in the medical school in the acceptance of the candidate for examination. Authority (as in House Bill 34) should be given the licensing board to accept for examination only those candidates who are graduates of approved medical schools.

### PUBLIC HEALTH

Extension of public health service through increased financial support and the establishment of more full-time health officers is desirable. Organization should be on the basis of the unit of local government and is often best on a county basis to spread the cost over a larger population.

A difficulty in the carrying out of an adequate community health program is the lack of appreciation on the part of the public of its importance. Education by unofficial health agencies will improve the situation and lead to the wider acceptance of well-established measures for the control of communicable disease. As an indication of shortcomings in this direction, in the investigation of school children for tuberculosis in the Ten-Year Program paid for by taxes, lack of parental consent deprived about one out of three children in the grade schools and one out of two in the high schools of the advantage of the investigation.

Of the two demonstration centers in Massachusetts, it is encouraging that one of them, that in the Nashoba district, embracing ten towns, will itself carry on the improved service with assistance from the State and without further reliance on the Commonwealth Fund of New York.

*EDITORIAL NOTE: An amended bill raising the standards of medical education under the title of House 1720 was enacted and signed by the Governor April 30, 1936.

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## ANNUAL REPORT OF THE EXECUTIVE SECRETARY*

### YEAR ENDING APRIL 8, 1936

BY ARTHUR J. STRAWSON

In coming before you for the first time I wish to extend to you my sympathy in the loss of your tried and true executive, Mr. Frank Kiernan. Your loss is a gain for the New York City Tuberculosis and Health Association.

In reviewing the past twelve months' work at this 23rd Annual Meeting your executive secretary who came only in January, 1936, will include a report on nine months of program prior to his coming to the Massachusetts Tuberculosis League. His work has begun pleasantly. He asks your indulgence while he becomes familiar with the programs and problems of all the affiliated associations.

### REHABILITATION OF TUBERCULOSIS PATIENTS

In 1935 was completed at Middlesex County Sanatorium in co-operation with Dr. Sumner H. Remick, Medical Director, a study of what may be done to aid recovering tuberculosis patients in selecting an occupation and in preparing to earn a better living despite their changed physical condition.

This study was financed by the League with the National Tuberculosis Association supplying at first Mrs. B. W. Burhoe, Rehabilitation Secretary. Dr. John C. Flanagan of Harvard University was found to have the qualifications required and, on part time, did much of the work.

It is now recommended that such a course might better be given by a full-time sanatorium employee who selects from time to time, lecturers or teachers in specialized lines. Such a person would be a Director of Social Adjustment or Rehabilitation. Under this person would be a social worker, occupational therapist and librarian. He would know enough of psychiatry to diagnose mental cases and to assist them. His work would be with physicians and nurses whose programs he should understand. Finally, he must have a deep social interest. Without such a worker the more important parts of the rehabilitation program may better be omitted.

*Presented at the Annual Meeting of the Massachusetts Tuberculosis League, at Springfield, April 8, 1936.

### MASSACHUSETTS UNDER THE MICROSCOPE

A report was made last year on the formation and financing of the Massachusetts State Health Commission. Under the direction of Dr. Carl E. Buck, of the American Public Health Association, and fourteen Massachusetts committees the health work of the Commonwealth is now being intensively studied. Our President, Executive Secretary and Health Education Secretary are aiding on various committees. The League Office did much of the Commission's clerical work in the organization period. In 1937 will arise the task of putting to work the Commission's recommendations. Obviously, it will call for many changes of procedure in the conduct of public and voluntary health work. Into this project it is hoped that all tuberculosis and other health-minded agencies of the Commonwealth will, in 1937, enter with enthusiasm. The final report of the Commission is due by the end of this year.

### GRANITE DUST CONTROL

Through its Committee on Granite Dust Control a study is now in progress on control methods in smaller granite cutting industries. The League has joined other New England state tuberculosis associations as well as various national health and insurance agencies in helping Mr. Manfred Bowditch of the Division of Occupational Hygiene in the State Department of Labor and Industries to conduct this study.

Delay in completing the study was due to difficulty in getting a suitable group of stone workers paid for by the Public Works Administration to follow up those paid for by the terminated Federal Emergency Relief Administration. Happily this problem was well solved, the work progresses and a report should be completed within the coming summer. The report to be published will give cost estimates and efficiencies of the several installations within the cost range of the smaller granite cutting companies. Thereafter, some local associations may be able to aid in securing use of newer dust stopping devices.

### DIABETES STUDY

With the aid of a financial contribution for the purpose, a study was made of the final illness of the 301 diabetics who died in Boston in 1935. For this work the Diabetes Committee of the League found the services of Dr. George W. Lynch eminently satisfactory.

The study may result in securing a more adequate and correct use of insulin. Diabetic persons seem to be more subject to tuberculosis than most others, while diabetic children, as recent studies show, are ten times more likely to develop tuberculosis than are nondiabetic children.

### LOWELL STUDY

In the spring of 1935 a study of the mortality and morbidity statistics for tuberculosis was completed. Tabulations were made by age, sex, ward distribution, form of the disease, number of contacts in families, case-reporting, etc. The report was submitted to the Lowell Tuberculosis Association, which in turn passed it on to the co-operative City Director of Health for his active consideration. Through the study a more or less complete picture of the tuberculosis problem in Lowell was secured according to areas of concentration. Such a picture is always helpful to a health agency, public or private, in shaping its program to concentrate its efforts wherever they are most needed. This branch of service by the League staff is practically available to any Massachusetts association interested in making a similar study of its tuberculosis problem.

### HEALTH EDUCATION INSTITUTE

At Fitchburg State Normal College, led by the Northern Worcester County Public Health Association, the Southern Worcester County Health Association, Franklin County Health Association, the State League and other agencies, united to provide a health education institute for one day. Dr. Frederick W. Maroney of Teachers College, Columbia University, New York City, was the principal speaker and a jury on health education was conducted. The many superintendents, principals and teachers in attendance seemed well pleased and well repaid.

### ASSOCIATION PROGRAM DEVELOPMENT

The affiliated associations and League early in 1935 were fortunate to have a study made of their programs by Dr. Philip P. Jacobs, the vigorous long-time worker of the National Tuberculosis Association. Since the study and report on programs of the associations, many of the recommendations have been adopted. Others merely await revision of constitutions. While use of still other recommendations seems impractical, the effort leads us all to try out our established methods to make sure which ones need replacement or revision.

After the association program study a very well-attended State Tuberculosis Institute was conducted in Boston by Dr. Philip P. Jacobs for all tuberculosis workers of Massachusetts.

### EARLY DIAGNOSIS CAMPAIGN

The spring health education campaign of local, state and national tuberculosis voluntary agencies maintains a vigorous program. Not all associations use it but some derive large benefits. Not least is the public appearance of the local associations in a health campaign wherein no funds are sought or mentioned. Besides advancing popular education against tuberculosis, the Early Diagnosis Campaign thus improves the community status of our local associations. The National Association prints material for the campaign on a national scale with resultant cost savings to all concerned.

In time for the 1936 Campaign the League procured Eastman Classroom Films for the use of local associations. The following new films are available: Bacteria, Breathing, Home Nursing (Routine Procedure), Posture and Care of the Teeth.

In the older films, now largely rehabilitated, are Story of My Life, by Tee Bee, Delay is Dangerous,

Consequences, Tuberculosis—How it May be Avoided and The Kid Comes Through.

All of these films, both old and new, except Consequences, are available in 16 mm. size. While there is no charge for their use the local associations pay the return transportation.

### SUMMER HEALTH CAMPS

At Worcester all summer health camp workers were invited by the League to discuss among themselves and with Dr. Henry D. Chadwick, State Commissioner of Public Health, the selection of camp children so as best to advance tuberculosis prevention. Such meetings have much to do with the improvement in various lines of summer health camp standards. Without such efforts camps tend to remain or to become recreational camps rather than camps for tuberculosis prevention. At present several of the Associations have extended the camp period to eight weeks, while others are struggling to do so.

### MASSACHUSETTS HEALTH JOURNAL

*The Massachusetts Health Journal* was continued as a plan for aiding and encouraging the many workers in tuberculosis throughout the Commonwealth. Besides the *Journal*, twenty-six special mimeographed bulletins were sent to local workers on routine or special matters.

### ORGANIZATION

After much loss of population from Haverhill and considerable financial difficulty the Haverhill Tuberculosis Association rather wisely voted on March 1, 1936, to consolidate with the Essex County Health Association. This Association with its capable executive secretary and health education worker can give Haverhill good service. Miss Christine B. Higgins, R.N., the former Haverhill executive, has fortunately secured a position with the State Department of Public Health in its work of social security.

In Southern Worcester County, Mr. Doyle E. Hinton, formerly executive of the Delaware Tuberculosis Society, has been appointed as executive secretary.

In the Malden Tuberculosis and Health Association, Mrs. Frederick R. Makepeace, R.N., was appointed secretary in place of Mrs. F. Anna Green, resigned. Mrs. Green had been secretary of that Association since its formation in 1911.

### SEAL SALE

Preparatory to the opening of the 1935 Seal Sale the League secured the expert Seal Sale organization services of Miss Frances E. Brophy from the National Tuberculosis Association to conduct intensive courses with workers in all sections of the State.

As in most other states, we are rising from the depths reached in 1932 and 1933. In 1933 the Christmas Seal Sale amounted to $185,913; in 1934, $189,259. As a few associations have not settled up their Seal Sale account with the League, we cannot today tell the 1935 total. We expect that the total sale for the state will pass the $195,000 mark.

Of county associations reporting to date Southern Worcester has the highest gain over 1934. It rivals its 1934 sale by $1,515.49. Of city associations reporting to date Lawrence has the largest gain over 1934. Its gain is $265. If the history of the 1921 depression repeats itself, our Seal Sale may be made to increase for the next few years.

### SCHOOL CHEST CLINICS

The opportunity our associations have in the field of the new school chest clinics, Miss Perkins will fully present. In this connection the League is happy to find its tuberculosis teaching unit able to aid the schools and sanatoria by increasing the number of pupils consenting to the tests and x-rays.

### LEGISLATION

Considerable has been done, particularly to advance the measure for better education of persons studying for medicine. The local associations also helped to secure the passage of this measure which for twenty-five years, according to Dr. Walter P. Bowers, Editor of *The New England Journal of Medicine*, has been knocking at the doors of our Legislature. Having passed with a good majority, it will soon await the favoring pen of our Governor.*

In 1937 the aid of all associations will be needed to secure passage of the health legislation now being worked out by the Massachusetts State Health Commission. The Commission will have the new legislative proposals drafted in bills ready for your consideration and backing.

Your executive secretary wishes for each worker and association that the coming year may be a happy and successful one.

*This Bill under the title of House 1720 was signed by Governor Curley, April 30, 1936.

## ANNUAL REPORT OF EDUCATIONAL SECRETARY*

BY ELNA I. PERKINS

In giving an account of the beginning of my work as Educational Secretary of the Massachusetts Tuberculosis League, I wish first to express my appreciation of the work of my predecessor, Miss Jean V. Latimer, who served the League for seven years with excellent leadership and capability in the field of health education. Her accomplishments have shown the way to follow in both direction and method and we are most grateful for her fine example and for the materials which she created that we are now using.

After considering our well-established program and the work of the official agencies in Massachusetts, the greatest need of the immediate year appeared to be an extension of educational work on tuberculosis in all the junior and senior high schools

*Presented at the Annual Meeting of the Massachusetts Tuberculosis League, at Springfield, April 8, 1936.

in the state, with the purposes of establishing the subject more definitely in courses of study, and in aiding the new tuberculin testing program inaugurated last year in the seventh, ninth and eleventh grades.

Dr. Frederick T. Lord, President of the League, in his report made to you last year indicated the need for this work in the schools, by saying that the failure to secure as many consents for the tuberculin test from high school pupils as from elementary school pupils in the Chadwick Clinic should be regarded as an indication of our shortcomings in health education. He also said that parental consents should be obtained from more nearly one hundred per cent of parents of children in the grades tested, and that the responsibility of the League and the affiliated organizations in this matter is obvious. I wish to give emphasis to Dr. Lord's statements, and to say that the Educational Secretary has assumed responsibility for the League in developing an educational program on tuberculosis that will directly aid the tuberculin testing work. Our Executive Secretary, Mr. Strawson, gives wholehearted support and assistance in this undertaking, with a knowledge of helpful procedures based on his experience as Executive Secretary of the Southern Worcester County Health Association. He and Miss M. Eleanor Hanson, R.N., Field Secretary of the Southern Worcester County Association, accomplished much in promoting the school clinic work last year in cooperation with Dr. Edson W. Glidden, Superintendent of the Worcester County Sanatorium.

May I suggest that every affiliated organization should likewise assume responsibility for very definite co-operation with the sanatoria which do the tuberculin testing, the local Boards of Health, and the schools, in aiding the tuberculin testing work to the end that larger numbers of children may be given the test.

The tuberculosis associations may help the tuberculin testing program by the following definite plans which have proved their value, particularly in Southern Worcester and Essex Counties:

Inquire of the sanatoria the time of year when the testing is to be done in each town in the association's territory.

Offer to the superintendent of schools in each town at least two months before preparations for the testing are begun, the materials which the association can furnish for classroom teaching on tuberculosis.

Offer the service of the association or assistance from the League in giving information to principals and teachers at their group meetings.

Contact all organizations in the community which could devote a program to the subject of preventing tuberculosis in young people.

Have exhibits prepared for libraries or other suitable public meeting places, and give publicity to newspapers on the purpose of the tuberculin testing program.

After consent blanks have been returned from parents, offer the service of a worker from the association to assist the local public health nurses or school nurses in communities having inadequate numbers of nurses to do the necessary home visiting to secure consents from parents.

Towns which have not yet had tuberculin testing in their schools under the new arrangement may be helped to see the need for having school clinics by suggestion from the local associations. Since the services of the school clinics are provided by sanatoria on joint request from the local boards of health and school committees, the tuberculosis association may take up the matter with the local boards of health, and school committees.

Our National Association and the League have printed suitable, helpful materials to offer teachers for classroom use in teaching the subject of tuberculosis. We have the Teaching Unit on Tuberculosis prepared by Miss Latimer, which is being used in this state and others increasingly, and is much appreciated by teachers who have used it. This year the League reprinted a pamphlet originally published by the National Tuberculosis Association entitled, Do Children Have Tuberculosis, with a new cover having a picture of the application of the von Pirquet test as used in the school chest clinics in Massachusetts. This pamphlet is intended to serve as a text to be placed in the hands of pupils when the Teaching Unit is used. Many of the publications of the National Association are very helpful to teachers as supplementary material to the Teaching Unit, and I recommend wider use of them. The question of who shall pay for this material if used in quantities each year, needs to be agreed upon. I believe that Seal Sale funds cannot be used to greater advantage in any community than in the purchase of this material for use in schools. Funds now being spent for milk or other relief purposes might be budgeted for this purpose, and have more direct effect in tuberculosis prevention. The policy of spending Seal Sale funds for educational purposes rather than for relief purposes is strongly recommended by our National Tuberculosis Association in the Seal Sale contract. Towns whose Seal Sale Committees have a large percentage of Seal Sale funds to spend locally at their discretion should consider the opportunity they have to furnish literature on tuberculosis to their own local schools, if the county associations are unable to provide literature for all towns from health education budgets.

It is fitting to quote Dr. Stuart Pritchard, a former president of the National Tuberculosis Association, who referred to the tuberculin test in his address at the National Association meeting in 1934.

"Any given child's attitude toward the tuberculin test depends not alone on what he learns from the teacher or the text, but also on the attitude of his mother, his father, other children, the Boy Scout leader, the physician, the dentist, the Sunday School teacher, the newspaper and the motion picture—offset against each other with varying weights according to the value the child unconsciously places upon the source."

Dr. Pritchard also reminds us in the same address that future health programs will require less crusading and more practical assistance to individuals and communities in the form of organization and education. Let us give practical assistance to the tuberculin testing program in Massachusetts schools in any way that we can.

One other service of the League related to health education I wish to mention as having greater possibilities of usefulness is the free loan library which the League has always maintained. This year the library has been enlarged, and a list of all books printed and distributed. The library is intended to serve the affiliated organizations, and we hope it may be increasingly used by them. One of the chief uses of the library is for exhibits of new and useful books on all phases of health at group meetings of teachers and of nurses. The library is one of the most valuable services in health education offered by the League to all persons interested in public health, and it is hoped that more people may be made acquainted with the opportunity to use it.

During the year, group meetings for public health and school nurses have been held at some sanatoria in co-operation with the local tuberculosis associations, and with assistance from the League on programs. Since these meetings have proved to be very helpful to nurses in instructing them in the newer methods of treatment and prevention of tuberculosis, the League offers assistance to other local associations which may plan similar meetings.

The League has co-operated with several of the state teachers' colleges this year by arranging for Miss Fannie Shaw, School Health Education Secretary, of the National Tuberculosis Association staff, to visit them and talk to classes in health education or special assemblies.

The League has provided in its Health Education budget for institutes for teachers, similar to those successfully conducted in the past two years in co-operation with local associations and school officials. It is hoped that at least three institutes may be arranged for next year.

Our associations have made many fine contributions to health education in schools and communities in past years, and can be expected to continue to apply new knowledge in developing programs that meet the needs of the future. Co-operation with all other agencies is the proved method by which we shall arrive nearer the goal of "equality in health for all men".

## REPORT OF TREASURER

### Statement of Income and Expense
### January 1, 1935 to December 31, 1935

*Income*

| | | |
|---|---|---|
| Percentage from Christmas Seal Sale | $18,925.90 | |
| Memberships | 346.00 | |
| Grant for Study of Diabetes in Boston | 500.00 | |
| Interest on bank funds | 672.27 | |
| Salary Refunds from Executive Secretary | 250.00 | |
| Repayment of Loan by Affiliated Organization | 600.00 | |
| Total Income | | $21,294.17 |

*Expense*

| | |
|---|---|
| *Health Education* — Including institutes, books and periodicals, *Health Journal*, purchase and printing of health pamphlets, travel, salaries | $7,129.95 |
| *Summer Health Camps* — Assistance to Affiliated Organizations in securing workers and equipment, visitation and inspection, travel, salaries | 723.81 |
| *Legislative Work* — Including circularization of local associations, conferences, clerical service | 390.06 |
| *Special Studies* — Including Study of Diabetes in Boston in 1935, Study of programs and work of Affiliated Organizations, Social and Vocational Rehabilitation at Middlesex County Sanatorium, and Study of Granite and Dust Control | 1,310.87 |
| *Administration* — Rent, office supplies and equipment, postage and express, telephone, meetings, salaries, printing, etc. | 3,423.41 |
| *Seal Sale* — Field service, regional conferences, publicity, newspaper material, telephone, shipping clerk, charges on supplies, salaries, postage | 3,651.98 |
| Organization and Field Work — Visitation of local organizations, individual | |

| | | |
|---|---|---|
| and group conferences, public addresses, travel, salaries, reorganization..... | 3,536.70 | |
| Total Expense..... | | $20,166.78 |
| Excess of Income over Expense ..... | | 1,127.39 |

(From Financial Statement and Balance Sheet prepared by Fox, Gill and O'Brien, Boston, Certified Public Accountants)

## HEALTH SECURITY*

BY KENDALL EMERSON, M.D.,

*Managing Director, National Tuberculosis Association*

As a result of the years of depression the subject of economic security dominates our social problems. By this we mean that wealth shall be so distributed as to insure to each family such share in national production as may be necessary to provide an income for comfortable living and the avoidance of penury in old age. Among the hindrances to realizing these objectives are improvidence, unemployment and unpredictable disaster. Improvidence is an unfortunate characteristic of many human beings. No social device can wholly ward off its penalties. Unemployment is to an extent an insurance problem. Disaster may come in the form of accident such as fire, flood or cyclone and can be partially offset by insurance also. But the chief unpredictable disaster is that of serious, expensive and prolonged illness with its accompanying loss of earning capacity. No adequate *economic* security is possible without effective provision for *health* security as well.

This fact was fully recognized by the planners of the Economic Security Act. That a program for health insurance could not be fabricated for inclusion in this Act is evidence of the prolixity of the problems which such inclusion would involve. An enormous amount of time and effort was expended by wise counsellors in the attempt to solve the puzzle. It is probably greatly to their credit that nothing concrete accrued, since a half-digested measure would quite certainly have been worse than none.

I cannot tarry to discuss the polar points of view that have been expressed, nay vociferated, regarding compulsory health insurance. As in such emotional conflicts personal prejudice has blurred clear thinking and thwarted fair debate. Both sides being human, neither is right. On the whole, coercion at the present moment of heat would invite needless disaster. The reasonable procedure would appear to be to rest on our oars until cooler judgments may prevail. Meanwhile we may profit by the variety of local and more restricted experiments which are in progress. This is consonant with our genius. The clear thinking of the few rarely impresses the herd. Experience is a costly school, but its riper fruits are more sound and enduring.

Meanwhile it is wholly proper and fitting to examine with interest and some care just where we stand at the moment in this matter of health security. In so doing we are faced with a rather striking paradox. There is general agreement that hard times, the resulting poverty, physical hardship and mental strain, wreak havoc with health. Yet in 1933, the year of deepest depression, this country struck a new all-time low in its mortality rate. Throughout the years of idleness from unemployment and reduced incomes the death rate from tuberculosis, supposedly a disease of poverty, has continued to decline with its predepression regularity. No grave epidemics have occurred, hospitals have shown no overcrowding. How can such facts be reconciled with the outcry for health security when, on the surface at least, we seem to have more of it under conditions of underprivilege than in times of prosperity?

We need invoke no miraculous explanation of this apparent paradox. The bulk of the answer is contained in the two words, public health. Consider this matter of health security from the historical angle. What is your health security today as contrasted with that of your grandfather? Seventy-five years ago yellow fever, cholera and plague were still knocking occasionally at our maritime portals; malaria was rioting unchecked in many parts of our country; typhoid touched most households in our more crowded centers; diphtheria put to death thousands of helpless babies annually; and tuberculosis was reckoned a fatal disease. Your chance today of surviving the perils and risks of infancy are four times better than your grandfather's. Your life expectancy at birth is twenty years longer than his. You are relatively secure from the inroads of controllable pestilences. For these changes community organization for the administration of preventive medical measures is largely responsible.

Right here I want to pause and stress a most important point in this discussion. Public health is not an abstraction. The public health service does not exist as a disembodied force. Its value hinges exclusively on the personnel engaged in its application. To a major extent the discoveries on which its evolution rests, the methods of practical application of such scientific knowledge, have been functions of that profession which I honor above all others, the profession of medicine. Certain enthusiastic lay partisans there are who fail, deliberately or through ignorance, to give due weight to these facts. Some even accuse the medical profession as a body of dereliction of its highest duty, to maintain the health of the people, forgetting that the successful administration of preventive medicine would be nonexistent were it not for the basic contributions of the medical profession itself. One must not wax oversensitive on this point. Physicians too are human. But to accuse them as a class of lack of sympathy with the progress of every legitimate preventive medical measure is to exhibit a woeful lack of judgment and good sportsmanship.

*Presented on the evening of April 8, 1936, at the joint dinner meeting of the Hampden County Tuberculosis and Health Association and the Massachusetts Tuberculosis League at Hotel Kimball, Springfield.

And so the credit for your health security of today as contrasted with that of your grandfather rests on a foundation well and broadly laid by the profession whose age-old duty it has been to prevent as well as to relieve suffering. On this sturdy foundation a splendid corps of workers, some trained as physicians, some as administrators, some as technicians, some as nurses, some as social workers, have been building the structure of modern public health which is bearing fruits at this present time of stress beyond any dream which we could have cherished thirty years ago.

In addition to the medical profession and the public health service another vital fraction, and that a very large one, enters into the equation which has resulted in the degree of improved health security which we enjoy. I refer to the public itself. Without co-operation from this multitude, very scant progress would be possible. A college president once remarked that though you lead a horse to water and can't make him drink, still you may find a way to make him thirsty. How to make the public thirsty has been among the puzzling problems in the development of public health from the time that it went upon a rational and scientific basis. The only solution to the problem ever suggested or discovered is *health education*. No other means has been found to arouse this essential popular thirst. But that one has had a somewhat amazing success, until today we find it a leading objective among the activities of professional, social and educational groups in a community.

Referring again to the Economic Security Act, we hear the undoubted voice of a health-minded populace speaking its approval of the appropriations of large sums to the Federal Public Health Service and to the health work of the Children's Bureau. No better proof could be forthcoming of the effective educational work pushed forward during the decades just past than the fact that from its first reading until its stormy passage no debate or challenge arose as to the wisdom of these two appropriations included in the provisions of the Act.

But to stop on this note of satisfaction with our achievements to date along the line of health security would be to mislead you completely as to the objective of this paper. While honesty requires acknowledgment of progress actually made, equal candor obliges us to admit that we are still lamentably far from the goal of possible achievement.

I will not bore you with figures to show our national penuriousness in the support of our local, state and federal public health services. Suffice it to say that in only one or two small corners of this country is there to be found an adequate public health budget. For the most part our towns and cities and states are spending from one-third to one-half the sums which experience has taught should be expended if our communities are to profit fully from the application of the principles of preventive medicine already known and ready to be put into operation. That is not a creditable showing for a country that professes a vital interest in economic security, of which health security constitutes one of the most significant factors. Our business today is to stop wrangling over theories and to put facts to work. Whatever brilliant solution of the sick care problem awaits sedimentation in the minds of medical economists, preventive medicine has already crystallized out of our social experience a procedure which, now used with only fractional efficiency, is capable of development into the largest contributor to health security.

Take a single example: suppose that tomorrow the number of public health nurses in this country were doubled, the result in early diagnosis of disease, in early treatment with quicker cure, in saving of lost time and the expense of illness, would be well-nigh incalculable.

Should the medical profession look with apprehension on such a suggestion let me state that theirs would be the chief profit. The nurse does not treat, she discovers. Her duty is to get patient and doctor into contact. Delay in this procedure is a major cause of health *in*security; eliminating such delay is the biggest step forward in health *security*.

Many other illustrations come to mind. A nearly adequate tuberculosis program reduced the death rate from that disease in Cattaraugus County last year to 18.3 in contrast to a national rate of 57. A well-advanced venereal disease control program in Sweden has cut syphilis to one-twelfth of its prevalence in 1919, and brought it under practical public health control.

Without question the way of improved health security lies in large part, as it has in the past, along the path of more effective preventive medical work. To this end the medical profession will contribute an ever-deepening interest in health with no sacrifice of their skilled ability in the treatment of disease. Methods of teaching are being developed in the medical schools to insure this indispensable objective. The public health service with increased resources and better trained personnel will make a larger contribution. A sanely educated public will co-operate more nearly to the needful degree. By all these means a brighter outlook is assured for the future just so far as prevention can contribute to the objective.

But this is only one side of the picture. We will always have sickness. Although test tube reproduction seems just around the corner, man will still be born of woman for a great many generations to come. Death comes to each and every one of us in our appointed time. Appendices will continue to disturb our peaceful lives. Strange aberrations of our endocrines, hormones and the vital fluids of our bodies are not destined to desert us in any visible future. And firearms, automobiles and aeroplanes will increasingly work their will on our fragile bones. We must have doctors and we must pay them enough so that they can survive to care for us in trouble.

One effect of depression and reduced incomes is an immediate tendency to ignore doctors' bills. If

our automobile breaks down and needs a new rear axle it is ordered at once and paid for on the same basis. If we get some wires crossed in our own insides we first try to postpone having them adjusted, which is foolish and ultimately expensive; secondly, we go to the doctor when matters get too bad and run up perhaps a considerable account. There being no written contract, this bill waits and too often is permanently set aside. From our double delay there result health insecurity for ourselves and notable economic insecurity for the physician.

In an attempt to remedy this maladjustment nothing could be more natural than for the sociologist to turn for relief to the well-tested principle of insurance. At first thought such a course would seem a dependable way out for both parties concerned. By tradition and training, however, the doctor instinctively shuns regimentation. He is an individualist to a greater extent than most professional people who work naturally in teams or organizations. There is a sacrosanct relationship between him and his patient which is only approximated by that of the clergyman or the lawyer. And there is a great deal to be said for the social as well as the professional value of such relationship. Hence the suggestion of health insurance has had hard sledding with the medical profession as represented by organized medicine.

There is a further difficulty that arises in attempting an equable solution of the health security problem along insurance lines. It lies in the difficulty of any wide application of the plan especially in this country. One evidence of this appears in the exclusion from the proposal of agricultural laborers and domestic servants, certainly two low paid classes who might naturally benefit by this form of insurance. It gives a flavor of class legislation to the scheme which is not wholly in keeping with our American instincts. Furthermore the limits of income between which health insurance should be approved is a controversial question. What is indigency? Below what income level is all payment impossible on a small insurance premium basis? Is there a determinable upper limit above which a private physician should expect reimbursement for his services at rates current in a given community?

It is a serious mistake to accuse the medical profession of selfish interference with the public welfare when it raises such questions and others in an honest effort to study the community's best interests as well as its own. If an emergency in health security really existed as claimed by some, it would be another matter. I have indicated that neither by increased death rate nor by the prevalence of uncontrolled epidemics can a state of true emergency be declared to exist. This does not deny the chronic need for more adequate care of the sick which must be squarely faced both professionally and socially and met by some new plan or plans arrived at as the result of calm and dispassionate consideration of the many puzzling factors involved.

One can only guess at the nature of such plans. No single solution of the problems spread over the vast area of our great country is likely. Much more probable is the suggestion that a number of workable programs will develop, each perhaps the most effective for the particular region in which it operates. For example in a small district in Oklahoma the co-operative system of community living has been extended to include medical care. Here a well-equipped hospital has been built with common funds and all members of the co-operative group are entitled to full medical care by skilled physicians who in turn receive adequate remuneration for their services.

Group practice is another of the procedures which has evidently become a permanent settler among accepted projects for the application of expert medical care at an expense within the limits of more modest incomes. The hospital insurance program, while not growing with anticipated rapidity, has also taken an apparently useful position as a further provision toward the assurance of health security.

District and state medical societies have undertaken with energy and enthusiasm experiments in the distribution of medical care which bid fair to solve some of the problems of reaching more effectively hitherto neglected groups in their respective communities.

Of the plan to pay the doctor's bill through the medium of extended credit, I personally do not hold a high opinion. Apparently the American Medical Association is watching this experiment with interest and has not to my knowledge opposed it seriously. On the other hand, to me it seems a rather frail and not particularly desirable procedure. The tendency to postpone payments, run up bills and buy on the installment plan is too widespread among our American people. Extended credit was certainly one of the reasons for the grim disaster of 1929. I believe it is out of keeping with what should be our economic ideals to promote health security on a deferred payment basis.

Two years ago at Kansas City I read a paper on a topic allied to that with which the present one deals. At that time, the depression was still deepening and the questions of adequate care of the sick, and adequate remuneration for the suffering medical profession were even more acute than they are today. To me there then seemed no way out save through federal aid in the direction of health insurance. Today I am largely of the opposite opinion. In fact, it is my definite feeling that federal compulsory health insurance is an increasingly remote probability. I am inclined to the belief that the social workers are not quite so clear in their minds as to just what is best for this country as they were then. I am further strongly of the opinion that the medical profession has been effectively shaken out of its *laissez faire* attitude toward the problem of adequate distribution of medical care. Both agree that there is something wrong, but both are now aware that the disability is of a chronic nature, amenable to vast improvement by patient and time-

consuming methods of treatment but not likely to be curable by means of any single panacea, much less by hasty and ill-considered surgical operation.

In summary, then, health security depends on three things; scientific medical knowledge both curative and preventive; financial ability to purchase it, both on the part of individuals and communities; a health-minded public with wisdom enough to make the purchase. These are all abstractions and cannot be brought about by legislation. Legal enactments will be needed to protect us from those who through misguidance or viciousness jeopardize their neighbor's safety, but in the final reckoning health security will come not through the enactment of laws but through the cumulative effect on all classes of an intensively prosecuted program of health education.

## MISCELLANY

### CONNECTICUT NEWS ITEMS

The State Department of Health on May 22, 1936, announced the appointment of a public health dentist, a librarian and an assistant mental hygienist. These three appointments represent additions to the department, two of the positions being new ones made possible by funds granted Connecticut under the Social Security Act for expansion of health services.

Dr. Franklin M. Erlenbach of Boston, graduate of Tufts College Dental School and the Harvard School of Public Health, takes the new position of Chief of the Division of Mouth Hygiene in the Bureau of Child Hygiene. Since the completion of his training Dr. Erlenbach has been an instructor at Tufts College Dental School, staff dental surgeon at the Brookline Contagious Hospital, a member of the Staff of the Brookline Dental Clinic and the Middlesex County (Mass.) Dental Clinic, and chief of the dental clinic at the Forsyth Dental Infirmary.

Miss Anna Katherine Tobias, formerly of West Hartford, a graduate of Randolph-Macon Woman's College at Lynchburg, Va., and the School of Library Science of Simmons College, becomes librarian of the department. She is the daughter of Dr. Henry W. Tobias, formerly clinical director of the United States Veterans' Hospital in Newington.

Mrs. Helen S. Peterson of New York City, graduate of Oberlin College and the Smith College School of Social Work, is appointed to the new position of assistant mental hygienist in the Bureau of Mental Hygiene. Mrs. Peterson comes to Connecticut after serving as case worker for the Institute of Family Service of the Charity Organization Society, New York City.

Dr. Stanley H. Osborn, Health Commissioner, also announced that Dr. Henry P. Talbot, who has been studying at the Harvard School of Public Health for one year, will return June 1 as director of the Bureau of Venereal Diseases, a position from which he had leave of absence. Dr. Alfred L. Burgdorf, acting director of this bureau, will be transferred to the Bureau of Preventable Diseases to fill a vacancy existing there.

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Dr. Charles C. Beach, one of Hartford's "grand old men" and for many years prominent in medical, business and social affairs in that city, observed his eightieth birthday anniversary on May 19, 1936. He is enjoying good health and still delights in attending gatherings of the Hartford Medical Society and of the Medical Masonic Club of Hartford.

Dr. M. Vincent Mikolainis of Hartford was recently reëlected President of the Connecticut Lithuanian College and Professional Association, an organization of college graduates of Lithuanian extraction. Among the other officers elected was Dr. John S. Staneslow of Waterbury, treasurer.

A decision in favor of Dr. Emerson L. Stone, New Haven obstetrician and gynecologist, in a suit brought by Mrs. Gertrude Green of New Haven, alleging negligent medical treatment following the birth of her child on August 4, 1931, was sustained May 19, 1936, by the Supreme Court of Errors. In the original trial of the action Mrs. Green obtained a verdict of $2,250 damages which the trial court set aside. In the present case, tried before a New Haven County jury and Superior Court Judge Frederick M. Peasley, now retired, a jury returned for Dr. Stone a verdict which was accepted. Justice John W. Banks wrote the opinion, holding there was no error in Judge Peasley's charge to the jury.

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The Hartford County Mental Hygiene Society held its annual meeting and dinner in Hartford on Tuesday evening, May 19, 1936. Dr. Charles W. Stephenson of Hartford, retiring president of the society, presided at the meeting attended by more than fifty persons. Among the newly elected directors was Dr. John A. Wentworth of Hartford.

Dr. John A. P. Millet, New York psychiatrist and neurologist, was the guest speaker. Calling psychiatry the "Cinderella of medical sciences" Dr. Millet said, "Psychiatry is playing an increasingly large part in the realm of criminology, but there are still too many people who consider it simpler to lop off a criminal's head or to imprison him for life than it is to treat him as a mental case. While in prison many criminals are affected by their punishment only in that they experience a hardening of their already strong antisocial feelings. How much more intelligent it would be for us to exchange social therapy for social punishment.

"The psychiatrist has the aspirations of a therapist and the hope of the public. As a science psychiatry has extended its operations until there is almost no human sphere in which it does not make itself felt. But it has a colossal obstacle to overcome—now, as always, the public feels that there is some great stigma attached to a psychogenic ailment. This feeling must be changed, and it will be changed—by education.

"Further than that, progress in this science must come through the psychiatrist's realization of the

limitations of his own present knowledge, combined with an overpowering enthusiasm to examine new things in the realm of psychiatry. Psychiatrists must keep an open mind, must master the technique of exact diagnosis, and must keep abreast of all developments in psychotherapy."

Reorganization of the Hartford Health Department to provide for the addition of several bureaus and the expansion of personnel that will mean a definite increase in budgeting allotment was proposed in a plan submitted at a meeting of the Board of Health Commissioners on May 20, 1936 by Dr. Robert V. Boyce, President of the Board. The Health Board voted to send copies of the plan to His Honor Thomas J. Spellacy, Mayor of Hartford. The salient features of the plan are as follows:

(1) Return of the Isolation Hospital, now under the jurisdiction of the Welfare Board, to the Health Department "where it rightfully belongs". Such a change would require a change in the city charter. The Chairman of the Welfare Commissioner's Hospital Committee objects to this change on the ground of increased expense.

(2) Establishment of a Bureau of Child Hygiene, headed by a part-time physician and with a supervisor, preferably a woman, to act as executive director. At the present time the pre-school hygiene and maternal hygiene is being carried on by the Visiting Nurse Association. Although their work is efficient it does not meet the need as it exists in a city the size of Hartford.

(3) Establishment of a Division of Child Mental Hygiene or Child Psychology, and possibly the development of an added Adult Mental Hygiene Division, this division to be directed by a full-time physician with case workers added as the increasing work shall demand. It is believed that such a provision will aid greatly in relieving the rapidly growing juvenile delinquency which is plaguing many social agencies.

(4) Addition of one more sanitary inspector and return of the food and poultry markets, now under the Public Buildings Commission, to the Health Department. These markets are believed to present a real health menace, and under proposed change could be operated as a health unit, whereby such complaints, such as the sale of smothered poultry, that previously existed would be terminated at their source.

(5) Change of City Charter to provide that the secretary of the Health Board be Registrar of Vital Statistics and for the addition of another assistant registrar.

(6) Appointment of a full-time physician in charge of the Venereal Disease Division of the Department and appointment of at least one more nurse. These additions are necessary to carry out a venereal disease program such as has been outlined by an advisory committee to the United States Public Health Service.

## The One Hundred and Forty-Fourth Annual Meeting of the Connecticut State Medical Society

The Connecticut State Medical Society convened at Hartford for its annual meeting on May 20 and 21, 1936. The entire program was one of the best ever afforded its members and the registration of 300 testified to the interest shown.

Officers elected were as follows:

President: Daniel C. Patterson, Bridgeport

Vice-Presidents: Thacher W. Worthen, Hartford; Hugh B. Campbell, Norwich

Administrative Secretary: Creighton Barker, New Haven

Legislative Secretary: Charles W. Comfort, Jr., New Haven

Secretary on Scientific Work: Stanley B. Weld, Hartford

Treasurer: James R. Miller, Hartford.

The principal innovation in the administrative personnel passed by the House of Delegates at its session on the second day of the meeting divided the work of the former secretary into three parts, viz., administrative, legislative, and scientific work. This resulted as a compromise following a move started a year ago to secure a full-time, non-member secretary in the interest of increased efficiency.

The Connecticut Society voted to abolish publication of its annual "Proceedings," a volume placed in the hands of each member almost since the Society was founded. In its place the Secretary on Scientific Work, among other duties, becomes the editor of a quarterly journal, this to serve as a record of the Society's activities and at the same time as a means of keeping its membership informed on matters of medical importance.

Upon recommendation of the Council the House of Delegates voted to discharge the delegates to the New England Medical Council, whose terms have not expired, and to elect no further delegates until required, the New England Medical Council having been discontinued. The House of Delegates also voted to discharge the Committee on Emergency Unemployment Medical Relief, there being no further need for such a committee.

Colonel Charles Franklin Craig, United States Army, Retired, Professor of Tropical Medicine, Tulane University of Louisiana School of Medicine, was elected an Honorary Member of the State Medical Society.

The Council recommended to the House of Delegates and the House voted the adoption of the recommendations contained in the Report of the Committee on Medical Economics as affirmed procedure for the State Society, viz:

(1) that the study of medical practice in the State as a fact-finding survey be continued to completion;

(2) that, in view of the fact that local factors influence the program for the care of the indigent, those matters be referred to local medical organiza-

tions, where they appear properly to belong for adjustment, and that the State Society withdraw from further attempts to co-ordinate or standardize procedure throughout the State, with the reaffirming of the policy that patients should be allowed the free choice of physicians.

One of the most important actions taken by the House of Delegates was the following vote, viz., That in accordance with the recommendation contained in the Report of the Committee on Public Health, the Committee on Public Health be charged with the formulation of a detailed specific directive for the handling of accident cases to prevent additional further injury from the process of transportation, to include standard fracture equipment for all ambulances or vehicles regularly used as such; that such directive be submitted for approval by the Council; that, upon approval by the Council, such directive be referred to the Committee on Public Policy and Legislation for transmittal in the name of the Society, to police, press, and other agencies, in such manner as will make most effective the sense of this recommendation.

The House of Delegates voted to request the Council to consider the draft of "Standing Orders and Policies for Public Health Nurses", prepared by the State Department of Health and presented through the Committee on Public Health and to authorize the Council, when it considers such approval may be given to approve, officially in the name of the Connecticut State Medical Society, said "Standing Orders and Policies for Public Health Nurses", and to transmit such approval to the State Commissioner of Health for use therewith.

During the first forenoon of the Annual Meeting, clinics were held at the St. Francis Hospital, the Municipal Hospital, and the Cedarcrest Sanatorium, and during the second forenoon at the Hartford Hospital, the Neuro-Psychiatric Institute of the Hartford Retreat, and the Newington Home for Crippled Children. These clinics were very well attended.

The afternoon programs comprised the following papers:

Activities of the State Department of Health in Carrying Out Provisions of the Social Security Act. Stanley H. Osborn, M.D., Commissioner, State Department of Health, Hartford.

Activities of the Committee on Public Health of the State Medical Society in Relation to the Social Security Act. Joseph I. Linde, M.D., Chairman, Committee on Public Health.

Surgical Treatment of Craniocerebral Injuries. Richard C. Buckley, M.D., Hartford.

Injection Treatment of Hernia. Daniel C. Patterson, M.D., Bridgeport.

President's Address: Expert Medical Testimony.* Thomas P. Murdock, M.D., Meriden.

*This paper created considerable discussion in the lay press, comment being both favorable and unfavorable.

Clinical Aspects of Thyroid Disease. Adrian S. Taylor, M.D., Clifton Springs, N. Y.

The Limitations of Pneumothorax Therapy in Lobar Pneumonia. Francis G. Blake, M.D., Sterling Professor of Medicine, Yale University, New Haven.

Early Motion in Fracture Treatment. Merrill K. Lindsay, M.D., Associate Professor of Orthopedic Surgery, Yale University, New Haven.

At the Section on Radiology two papers were presented:

Results of Comparative Doses on Human Tumors using Fever and Roentgen Irradiation, by Stafford L. Warren, M.D., Assistant Professor of Radiology, University of Rochester, N. Y.

Roentgenologic Study of the Appendix, by Hugh Wilson, M.D., Assistant Professor of Radiology, Yale University School of Medicine, New Haven.

The Section on Obstetrics and Gynecology presented Emil Novak, M.D., Baltimore, on The Use and Abuse of Endocrinology in Gynecology.

At the Section on Neurology and Psychiatry Arthur P. Noyes, M.D., Superintendent, State Hospital for Mental Diseases, Howard, R. I., spoke on Relationship of Psychiatry to Medicine.

At the Section on Dermatology and Syphilology two papers were presented:

Pustular Bacterids of the Hands and Feet, George C. Andrews, M.D., Assistant Clinical Professor of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University, N. Y., and Occupational Dermatoses, Harry S. Reynolds, M.D., Hartford.

The Hezekiah Beardsley Pediatric Club presented its scientific program on the afternoon of May 20 at the Municipal Hospital.

At the Section on Eye, Ear, Nose and Throat two papers were presented:

Clinical Considerations of Ocular Fatigue. Conrad Berens, M.D., New York City.

Review of Operative Technique in Nose and Throat Surgery. E. Ross Faulkner, M.D., New York City.

On the evening of May 20 the Hartford Medical Society and Hartford County Medical Association were hosts to the guests and members at an Entertainment and Smoker. The following evening the Annual Dinner was held at the Hartford Club. On this occasion Dr. Arthur B. Landry acted as toastmaster. Remarks were made by the retiring president Dr. Thomas P. Murdock, and by the newly elected president, Dr. Daniel C. Patterson. George Ross Wells, Ph.D., Professor of Psychology, Hartford Theological Seminary, spoke on "Is Civilization Getting Us Anywhere?"

Members who so desired enjoyed the golf facilities afforded by the Wampanoag and Hartford Golf Clubs. The Woman's Medical Society of Connecticut met for its annual luncheon at the Hartford Club on Wednesday, May 20.

## THE MASSACHUSETTS PUBLIC HEALTH ASSOCIATION

### Report of the Committee on the Relationship of Boards of Health to the Medical Profession

The committee of five, appointed by the President to recommend to the Executive Committee of the Massachusetts Association of Boards of Health as to the duties, programs, and responsibilities of Boards of Health and the relationship of the same to the medical profession, submits the following report:

Boards of Health are charged with the responsibility of preventing disease in, and promoting the health of the people within their local jurisdiction. Specific powers and duties are delegated to them by state laws and they are empowered to adopt and to enforce "reasonable" local rules and regulations. Their work is supported by taxation and they are the servants of the people.

The advancement of the science of health, particularly in the fields of bacteriology and immunology, and also the demonstration of what may be accomplished in health promotion by the diffusion of health information among the people has, during recent years, greatly expanded the scope of public health activities. Traditionally, Boards of Health have been thought of chiefly as exercising broad police powers through the power to license, to abate nuisances, to condemn contaminated property and to order personal or property quarantine. While environmental sanitation and the other phases of work mentioned are still important, the recent trend has tended to bring health departments and their personnel more directly in contact with individuals, or groups of persons, for prophylactic treatments, diagnostic advice and education through clinics, by home visits or in other ways. Properly administered, such services are clearly preventive in nature and in no way infringe upon private medical practice. No line can be drawn as to what persons are entitled to health protection and health services, any more than in the case of police protection or fire protection. The taxpayers pay for health work and all alike are entitled to the benefits of milk control work, laboratory diagnosis or tuberculosis diagnostic clinics.

Boards of Health do not, and should not, generally treat disease, or render medical services beyond diagnosis, or protection against certain epidemic diseases. We believe, and experience supports the belief, that Board of Health activities make the people more aware of health, and of the value of medical services, resulting in many more persons seeking medical advice, treatment and prophylaxis privately than would be the case in the absence of such services. It should be the aim of Boards of Health and their agents to recommend and encourage individuals to consult their own physicians in all cases of sickness and also for prophylactic treatment and health examinations.

There should be no conflict between Boards of Health or their agents and private medical practice. Boards are not interested in administering to the sick. They are interested in protecting the community from preventable diseases and spreading the gospel of health. They do not provide preventive services to those who are receiving them from the family physician.

Be it therefore resolved:

1. That it is the responsibility and duty of Boards of Health to employ professionally qualified personnel to administer public health work, and that such persons should be free from political influence or interference.
2. That the basic activities of Boards of Health include:
   (a) The control of communicable diseases by enforcing the provisions for prompt reporting of cases of diseases declared dangerous to the public health; by isolation and quarantine; by providing for immunization against certain specific diseases; by providing for the diagnosis and sanatorium treatment of tuberculosis; and by any and all other measures that are lawful and effective.
   (b) The promotion of maternal and child health by adequate provision for maternal and infant care, and preschool and school child health.
   (c) Sanitation, including the protection of the water and milk supplies and other foods; and responsibility for other environmental sanitary measures, and the proper disposal of sewage and other wastes.
   (d) Laboratory services for aid in diagnosis, and the testing of milk, water, food, and other commodities that may affect the public health.
   (e) The recording and analysis of vital statistics.
   (f) Other recognized practices, including health education, epidemiological studies, and research.
3. That the services and resources of Boards of Health are available to all citizens within the legal jurisdiction of a given Board.
4. That it should be the responsibility of the Boards of Health to encourage the medical profession to a greater participation in the practice of preventive medicine, and to inform the general public of the availability of the medical profession for this type of service.
5. Finally, be it resolved that to further these mutual interests of Health Departments and physicians it is recommended that the Massachusetts Medical Society be invited to appoint a committee or delegates to meet with a committee of the Massachusetts Association of Boards of Health to discuss from time to time matters of joint interest and concern.

Dr. William O. Hewitt, *Chairman*,
Dr. Charles F. Wilinsky,
Dr. Ernest M. Morris,
Mr. John J. McGrath,
Professor Curtis M. Hilliard.

The Association voted to accept this report at its annual meeting, January 30, 1936.

At the same meeting the Association changed its name to "The Massachusetts Public Health Association."

## DR. HODGKINS ADDRESSES THE MASSACHUSETTS SOCIETY OF EXAMINING PHYSICIANS

Dr. Edward M. Hodgkins, Assistant Professor of Surgery at Tufts College Medical School, read a paper at the annual meeting of the Massachusetts Society of Examining Physicians, May 27, entitled "Direct Inguinal Hernia in Relation to Industrial Accidents."

## PROMOTIONS IN THE HARVARD FACULTY

The following promotions in the Harvard faculty have been announced: Dr. Gordon W. Allport, from assistant professor to associate professor of psychology; Dr. Philip Drinker, from associate professor to professor of industrial hygiene, and Jacob P. Den Hartog, from assistant professor to associate professor of applied mechanics.—*Science*, May 29, 1936.

## U. S. COURT FINES AND REPRIMANDS MANUFACTURER OF LOW-STRENGTH DISINFECTANT FOR HOSPITAL USE

The Century Chemical Products Co., Detroit, Mich., was fined $300 and rebuked by the Court on May 15 in an action under the Federal Insecticide Act. The Food and Drug Administration, in comment on the action, says the company's product, known as "De-Germ," was offered as a disinfectant and germicide for use in theatres, hospitals, schools and other public places. It was tested by government bacteriologists and found to be ineffective against some of the commoner forms of bacteria, even when used full strength. Analysis showed it to be a weak solution of formaldehyde (1½ per cent), phenolic substances, soap and perfume materials in water (96 per cent).—*Bulletin*, U. S. Department of Agriculture.

## SUMMER CAMPS

For four years the Boston Health League has issued a mimeographed bulletin concerned with summer camps. This first pamphlet contained two sections: Safeguards from Communicable Disease and Food Economies.

In 1935, the material was completely revised and amplified, and with a few changes the bulletin for 1936 has been issued.

The Committee wishes to stress the importance of adequately trained personnel, and a well-planned program allowing for participation by director, campers and counselors, which will develop in each camper an appreciation of out-door living, and which is sufficiently flexible to permit individual taste and capacities to be developed. Fatigue may contribute to ill-health as much as malnutrition. A program not too competitive in character will add to the value of camp life.

The essential features slightly abbreviated are as follows:

I. EQUIPMENT

1. Tentage or housing for sleeping quarters must give proper protection against the weather, and insects, if necessary. It is recommended that each sleeping unit accommodate as few campers as is practicable. Every child should have a single bed. An average of forty or more square feet of floor space should be allowed for each individual camper.
2. An infirmary should be provided with adequate first-aid equipment available at all times.
3. Necessary fire fighting equipment should be provided. Equipment will depend somewhat upon conditions in each camp, but in general
   (a) Approved fire extinguishers in sufficient number should be provided for each building, special attention being given to kitchens and other places where cooking appliances are used.
   (b) Nested buckets should be located outside buildings and in wooded sections adjacent to the covered barrels.
   (c) Brooms, shovels and similar equipment should be available to combat brush and grass fires. These should be placed in separate enclosures for quick and convenient use, properly marked for fire use only.
   (d) In the case of large camps, one or more 25 to 40-gallon hand-drawn chemical extinguishers would be a valuable asset to the equipment. It is sometimes possible to provide a greater degree of protection where a pond or river is close by where an electric or gasoline driven pump may be installed with piping laid for fire protection service. This system could also be a part of the domestic water supply.
   (e) In addition to equipment, it is most important that the supervisors should hold periodic fire drills for the safety of the children.

II. SANITATION

1. The water supply for drinking, culinary and personal cleanliness purposes should be certified as safe by the local or state department of health before camp opens, and should be tested at adequate intervals.
2. Common drinking cups should never be used. Bubbler fountains should be installed in the main building used for common purposes and on the grounds where the children may reach them easily.
3. Toilet facilities should be adequate,—one unit for every ten persons. They should afford in-

CHILD HEALTH

The activities of the Child Health Committee have fallen into two divisions this year. (1) The Underprivileged Child Committee of the Kiwanis Club of Boston asked the Boston Health League to outline a health program to be undertaken by them and the matter was referred to the Child Health Committee. At a meeting on April 7, 1936, it was decided that there were three objectives which would appeal to a committee of this character and which would fill a distinct need:

1. This committee might adopt a few individual children who were tuberculosis contacts and be responsible for their care at Prendergast Preventorium.
2. There are always individual children known to the Harvard Infantile Paralysis Commission who need more care than the Commission can furnish and these children might become the special charge of this committee.
3. It is generally felt that there is insufficient care for cardiac children.

Material regarding these three projects was submitted to the Kiwanis Club on May 8, and Dr. Sisson and Dr. Smith met with the Underprivileged Child Committee on Friday, May 22, to discuss the matter further.

(2) Summer Camps. At a meeting of the Committee on April 22, regarding summer camps, it was decided to revise slightly the material published last year. Interest in these summer camp pamphlets has grown to such an extent that 750 copies have been mimeographed. Morgan Memorial has ordered one hundred copies at five cents each to be distributed among their workers. At this meeting on April 22, the Committee stated that they considered that physical safeguards were the major concern of the Health League, but that interest in summer camps had broadened beyond physical standards, and it was voted to request the Boston Council of Social Agencies to form a committee on recreation or camping which would be representative of all groups engaged in running nonprofit camps and which would consider all sides of camping programs. At the meeting of the Executive Committee of the Council of Social Agencies on May 7, it was voted to accept this recommendation of the Health League and to form such an organization.

At the meeting of the settlements on Wednesday, May 20, Mr. Kingman, a member of this Committee, presented the 1936 pamphlet and there was considerable discussion and interest. The settlement group wished to study these recommendations during the summer to find out whether they were practicable and it was planned to have a small committee which hopes to visit summer camps.

At the meeting of the Children's Division the same afternoon, Miss Tracy presented the pamphlet and stated that the Health League offered this as a guide but that it was realized every camp could not follow specifically all recommendations made. This material is intended as a guide to indicate whether camps in general are able to maintain proper physical standards.

Copies of the pamphlet will be mailed to all organizations conducting summer camps. Members of the Health League, Executive Committee of the Boston Council of Social Agencies, and since its first publication in 1932, the Massachusetts Tuberculosis Association and the State Department of Health have used the pamphlet in helping to determine criteria in physical standards.

HEALTH EDUCATION

The Health Education Committee has been working upon two educational projects during the year. One of these was a series of food exhibits demonstrating elementary principles of nutrition. In addition to teaching nutrition, these exhibits demonstrated the importance of visual education in teaching health to the community. Enthusiastic co-operation in working out the plans has been given the committee by the City Health Department, the Department of Public Welfare, the nutrition workers of the voluntary agencies and the agencies housed in each health unit where the exhibits were displayed.

The first exhibit urged the importance of using the whole-grain product as a source of iron and vitamins and showed the cost of each cereal. This exhibit has been displayed in the Health Units in the West End, South Boston and Charlestown. In each unit a meeting of neighborhood people was held and was well attended. Miss Foster talked at these meetings.

On the planning and organization of the exhibits, the Department of Health Education of the Boston Dispensary has spent a great amount of time and effort, including the special service of a paid worker, and it is hoped that the work may be continued under the service of a special worker. A great deal of material has been accumulated as a foundation for its continuance. The files of the Boston Health League contain photographs of the exhibits, plans drawn to scale, and copies of materials distributed, and the furnishings have been preserved so far as possible.

As another means of advancing the education of the public in nutrition, the Chairman of the Health Education Committee conferred with the teacher of Health Education in Boston Teachers' College and arranged a meeting for her class at the Boston Dispensary, at which there was a demonstration, by the Director of Health Education, of methods of teaching nutrition to children. As a result three students in the class have come to the Dispensary on Saturday mornings throughout the winter and spring to join in the weekly health education conferences and to take a responsible part in teaching the children about food and health as they wait for treatment.

### NEEDS OF WARD 9

The Committee on Needs of Ward 9 was formed originally because this district showed the highest incidence of tuberculosis.

At present the Boston Tuberculosis Association is doing intensive work there and, while the chairman of this Committee is actively concerned in it, it has seemed more important to the Committee to extend its work into other fields of health education.

Last year the exhibit of food values was carried out at the Whittier Street Health Unit and this year the Committee voted to undertake some educational work in social hygiene.

Our program was to get in touch with groups already formed in social or church organizations and arrange to send speakers to them. We are indebted to the State Department of Public Health for one speaker and to the Massachusetts Society for Social Hygiene for our other speakers. We have had cordial co-operation from the women's organizations of the neighborhood through Dr. McGillicuddy.

Many men's clubs are carried on by churches and, through Dr. Epstein's approach to the ministers, we were able to arrange talks in their churches.

Mr. George W. Goodman, Executive Secretary of the Boston Urban League and a member of this Committee, has been very helpful in making many of these contacts. Several doctors gave us their strong endorsement. Talks have been given by Dr. McGillicuddy at the League of Women for Community Service, by Miss Craine at the Women's Service Club and also at a joint meeting of the Health Guild of the Boston Tuberculosis Association with the Mother's Club of Robert Gould Shaw House.

We are indebted to Dr. Rolf Lium for speaking to groups at three churches and one club: Dudley Street Baptist Church, St. Cyprian's, Charles Street Church, and the 8-20 Club of Young Men, meeting at the Women's Service Club House.

Your chairman has heard most encouraging reports of the reactions of these groups to the talks, and Dr. Lium also feels that the members have shown an intelligent interest through the questions that have been asked. Several of these groups were of very young men.

It is due to the co-operation of the Massachusetts Society for Social Hygiene that we have been able to carry out the plans made by this Committee.

### NURSING

The Public Health Nursing Committee of the Boston Health League has held one meeting during the winter. It is felt that with the formation of the Hospital Council and the interest of the National Organization for Public Health Nursing in developing adequate nursing care to meet all the needs of a community that there should be a more inclusive organization than the Public Health Nursing Committee of the Health League. A subcommittee was therefore appointed to consider the advisability of forming a nursing council which would consider nursing and nurses in relation to the community program. Meetings of this subcommittee have been held and it is planned to have a meeting of the larger group in the fall, when it is hoped definite recommendations regarding the formation of a nursing council will be presented.

### PNEUMONIA

Since November 7, 1935, the Pneumonia Committee has sent a card to 1,774 practicing physicians, members of the Norfolk District Medical Society, the Suffolk District Medical Society and the Middlesex South District Medical Society, calling attention to laboratory facilities for the typing of sputum. The State Health Department reported that during December there was an increase in the use of the State laboratory facilities for this purpose by physicians in this area who had not formerly availed themselves of this opportunity.

In March 1936, reprints of the article written by this Committee which appeared in the January 30, 1936, issue of *The New England Journal of Medicine* were distributed to these physicians with a letter signed by the president and secretary of their respective medical societies, again calling their attention to the reduction of mortality for types I and II of lobar pneumonia if serum is used promptly. Dr. Smillie requested copies for one of his classes at the Harvard Medical School and this article was also distributed to members of the Health League and was enclosed with 900 copies of the Bulletin of the Boston Council of Social Agencies.

The Committee is concerned with the question as to the best policy for lay education regarding the use of pneumonia serum, but has been of the opinion that physicians should first know the value of this therapy and how to obtain it, and has, therefore, not attempted lay education.

### SOCIAL HYGIENE

There are three matters with which the Social Hygiene Committee has been particularly concerned. These are the following: (1) The co-operation with the Committee on the Needs of Ward 9 in stimulating interest in regard to syphilis and gonorrhea, on which Mrs. Lord has reported. (2) The continuation of sponsoring the meetings of the Staff Council on Syphilis and Gonorrhea. Since November four meetings have been held with the following guest speakers discussing community problems:

*Dr. Nels A. Nelson* of the Department of Public Health who conducted a round-table discussion on improved methods of a social service and administrative program for syphilis and gonorrhea.

*Mrs. Evangeline Morris*, Social Hygiene Supervisor of the Community Health Association, whose subject was "The Community Health Association and Hospital Clinics—Their Interrelationship."

*Dr. Harry C. Solomon*, who spoke on "New Treatment Methods in Neurosyphilis" with a demonstration of apparatus; and

*Miss Ora M. Lewis* of the Massachusetts General Hospital who spoke on "The Public Health Department and Social Service."

The third matter is the study of social hygiene literature available in the Boston Public Library system. Several of the branches of the Boston Public Library have already been visited in addition to the main building with a view to ascertaining the situation in regard to the supply and demand for this literature. Branches in the remaining sections of the city will be visited so that some comparison may be made as to the uses which are being made of the available facilities, and the Committee may know in which districts greater effort should be made to further educational activities in social hygiene.

REPORT OF DR. SHATTUCK

You have heard from chairmen of many of the committees about what has been done during the past year. I should like to say that the work has been steadily extended for a number of years, with more and more being accomplished. Perhaps we do not realize that the permanent staff of the Health League is exceedingly small having the half-time of the executive secretary and her assistant who work also for the Hospital Council; and the full-time of one stenographer. The Health League shares the telephone service with the Council of Social Agencies. It is obvious that a large part of the work must be done, and has been done, by volunteers many of whom are exceedingly busy yet willing to give of their time. Most of the committees whose reports you have heard today are continuing, but temporary committees have been formed this past year and dissolved when their special task has been accomplished. We have had splendid co-operation. Membership on committees is not limited to board members or members of the Executive Committee. Whenever we see anyone who can help, we ask that individual to serve and help us when and as he can. I should like, also, to call your attention to the co-operation from *The New England Journal of Medicine*. Dr. Bowers has been interested in our work for years and has been most generous in publishing some of the things we wished to bring to public attention.

For the future we should continue to push the programs and policies for which we stand. We should bring more effectively to the attention of boards of member agencies, policies in which we need the help of their organizations. I wish to thank the board members who are here today and ask them to take up this matter with their organizations and give us greater co-operation along these lines and offer advice as to how we can be more helpful.

One of the major concerns of the Health League should be legislation. During the past, representatives of the organization have appeared at hearings in favor of many bills or to combat legislation which would be harmful to public health. Upon the completion of the report of the Massachusetts State Health Commission the Boston Health League should concern itself with the recommendations which will be made to the next general session of the Legislature.

There being no further business, the meeting then adjourned.

MARGARET H. TRACY, *Secretary*.

CHAIRMEN OF COMMITTEES

Anna C. Palmer, M.D., Chairman, Educational Committee on Cancer

Warren R. Sisson, M.D., Chairman, Child Health Committee

Mary Pfaffmann, Chairman, Health Education Committee

Mrs. Frederick T. Lord, Chairman, Committee on Needs of Ward 9

Sophie C. Nelson, Chairman, Public Health Nursing Committee

Frederick T. Lord, M.D., Chairman, Pneumonia Committee

Mrs. Maida H. Solomon, Chairman, Social Hygiene Committee.

## HAMPDEN DISTRICT MEDICAL SOCIETY

The Annual Meeting of the Hampden District Medical Society was held at the Skinner Memorial Clinic of the Holyoke Hospital, Tuesday, April 28, 1936, at 4 P.M. The President, Dr. Theodore S. Bacon, was in the chair. About seventy members attended.

Dr. Hervey L. Smith, Secretary-Treasurer, read the minutes of the previous meeting, which were approved, and submitted the Treasurer's Report, showing a balance of $536.07 after disbursements. He also noted that the dividend returned by the Massachusetts Medical Society this year for early payment of dues was the largest in the history of the District Medical Society, also that the appropriation from the Hampden District Medical Society toward the expense of radio talks by Dr. Miles of Brockton, Chairman of the Committee on Education of the General Court, exceeded that of all the other district societies in the state.

According to the Secretary, the average attendance per meeting was 100, the total active membership 301.

The President, Dr. Bacon, reported that during the recent flood period, under conditions of interrupted communication, a Hampden District representative had attended a number of consecutive meetings of the Presidents of the District Medical Societies in order to discuss an important matter of ethics and discipline.

Nominations for officers of the Society for the ensuing year were made and seconded and the following were elected by the Secretary casting a single ballot:

President: Dr. Patrick E. Gear of Holyoke.

Vice-President: Dr. Allen G. Rice, Springfield.

Secretary-Treasurer: Dr. Hervey L. Smith, Springfield.

A vote of thanks was given to the officers for the

past year and an especial tribute to Dr. Hervey L. Smith, Secretary-Treasurer, who has served twenty-five consecutive years.

The President read a communication from the Doctor's Medical Service, Inc., of New York City, with reference to a project to establish a doctor's radio call service, which would necessitate their obtaining a wave-length assignment from the Federal Communications Commission. They then planned, it was stated, to establish broadcasting stations in each city, these to be maintained by monthly rental payments on special radio receiving sets, equipped with light and buzzer attachments, in portable units.

A motion to lay this matter on the table was voted down. Another motion, from the President to appoint a committee of three to investigate the matter, was carried, and the Chair appointed the following: Dr. H. W. Van Allen, Chairman; Dr. George L. Schadt, Dr. Frank Dutton, all of Springfield.

Dr. Gear, Chairman of the Public Relations Committee, reported on plans for the next year, including a Round Table discussion on medical economics. He referred to the consensus of the Public Relations Committee of the Massachusetts Medical Society that a more precise definition of the term "free choice of physicians" in Industrial Accident cases should be sought in the form of a Supreme Court ruling in some particular case to be brought by the action of some individual physician in such a case, who should communicate the circumstances to the committee, for its consideration of the matter of asking for authorization of necessary legal expenses. Mention was made of a Hospital Prepayment Plan, suggested by the Boston Hospital Committee, to be administered by a nonprofit hospital corporation organized in Metropolitan Boston, the benefits to be extended to groups of wage earners. The plan would provide a minimum prepayment sum per year, in return for which the beneficiary would be entitled to a limited period of hospital care without charge. This or similar plans are now in effect in twenty-six states. It will be presented at the coming meeting of the Massachusetts Medical Society. The plan is not designed to interfere in any way with any arrangement between physician and patient, and applies to hospital services only. The hospitals would be reimbursed by a Hospital Service Corporation.

The paper of the afternoon was read by Dr. William Reid Morrison of Boston on "Bleeding Duodenal Ulcers." Dr. Morrison based his paper on a study of seventy consecutive cases in the wards of the Boston City Hospital, only proved cases being included. Of these seventy, fifty showed severe bleeding. He stated that few bleeding ulcers perforate and few perforating ulcers bleed. His analysis showed a mortality of 100 per cent among those operated on while in acute shock from the bleeding. The best immediate treatment is: 1. Rest in bed. 2. Morphine. 3. Starvation. 4. Large quantities of salt solution by any route other than the gastrointestinal. A barium meal and x-ray studies should be postponed until bleeding has ceased for ten days. Salt solution is given chiefly subcutaneously in quantities of 1000 cc. or more and morphine frequently if needed to keep the patient quiet. On admission an emergency call is put in for a Group IV donor for blood transfusion. Serious cases may be transfused slowly with from 300 to 400 cc. Small repeated transfusions of 150 to 300 cc. are preferred to single larger transfusions. In all cases having one or more massive hemorrhages, and in those with repeated smaller hemorrhages, surgery should be strongly considered. Such surgery is best performed during a quiescent interval. Direct attack on the ulcer is preferable to sidetracking it.

A standing vote of thanks was given Dr. Morrison, the meeting adjourned and supper was served.

ANDREW PETERS, M.D., *Reporter.*

## NEWBURYPORT CANCER CLINIC

On June 3, 1936, physicians and surgeons from Newburyport and the surrounding communities attended the banquet conference at the Old Town Country Club which marked the end of the first six months of the Newburyport Cancer Clinic.

The guest speaker was Dr. Grantley W. Taylor, consultant for the clinic, also visiting surgeon to the Massachusetts General, Huntington Memorial, and Pondville Hospitals. He stressed the problem of early diagnosis and treatment of cancer with reference to the local physician.

Dr. Lincoln C. Peirce, local chairman, reviewed the work accomplished since the inception of the clinic on January, 1936.

The secretary's report was submitted by Dr. Dorothy Cheney of Newburyport. This was followed by a report of the treasurer, Dr. Frank W. Snow, also of Newburyport.

Miss Rosamond Tatro, social worker in the State Department of Public Health, who is doing the social work for the local clinic, explained the part the social worker plays in assisting the doctor to secure early treatment for his patient.

The administration of the clinic in comparison with the other state cancer clinics was discussed by Dr. Herbert L. Lombard who directs the cancer program for the State Department of Public Health.

Other visitors were Mr. George Leonard and Mr. Charles Davis, trustees of the Anna Jaques Hospital, Newburyport, also Miss Violet Kirk, superintendent, and Miss Lillian Sutton, superintendent of the Amesbury Hospital. Boston physicians attending were Dr. Rudolph Jacoby and Dr. T. Raymond Healy.

## THE AMERICAN PUBLIC HEALTH ASSOCIATION

The oldest and most powerful association of public health workers in the United States, the American Public Health Association, will convene in New Orleans, La., October 20-23, for its 65th Annual Meeting.

Drawn from every State in the Union, from Can-

ada, Cuba and Mexico, officials from the various branches of Federal, State, City and County health departments and other agencies active in disease-prevention and health promotion will gather in New Orleans. For four days, the attention of the health and medical worlds will be focussed upon the deliberations and recommendations of this band of health specialists.

The Annual Meeting of the American Public Health Association is the place where the report on the state of the nation in matters of public and personal health is presented.

Dr. Thomas A. Parran, Jr., Surgeon General of the United States Public Health Service, is President-Elect of the Association and will be honored at New Orleans.

National headquarters of the American Public Health Association are 50 West 50th Street, New York, N. Y., and Dr. Reginald M. Atwater is Executive Secretary.

## SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

### CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNING MONDAY, JUNE 15, 1936

**Tuesday, June 16—**

9 A.M. Massachusetts General Hospital. Thoracic Clinic.

11:30 A.M. Massachusetts General Hospital. Eye-Nerve Conference. Out-Patient Department.

*12 M. South End Medical Club. Headquarters of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston.

**Wednesday, June 17—**

†12 M. Clinico-Pathological Conference. Children's Hospital.

**Thursday, June 18—**

*8:30-9:30 A.M. Clinic, Surgical and Orthopedic Staffs of the Children's Hospital, at the Children's Hospital.

9 A.M. Massachusetts General Hospital. Surgical Grand Rounds.

11 A.M. Masssachusetts General Hospital. Medical Grand Rounds.

12 M. Massachusetts General Hospital. Clinico-Pathology Conference.

**Friday, June 19—**

10 A.M. Massachusetts General Hospital. Fracture Rounds.

**Saturday, June 20—**

*10 A.M. - 12 M. Staff Rounds at the Peter Bent Brigham Hospital. Conducted by Dr. Henry A. Christian.

*Open to the medical profession.
†Open to Fellows of the Massachusetts Medical Society.

**June 15-19**—The Executive Board of the Catholic Hospital Association will meet at the Fifth Regiment Armory, Baltimore, Md.

**June 16**—South End Medical Club will meet at 12 noon at the headquarters of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston.

**June 16 - July 28**—Summer Course in Bacteriology. See page 385, issue of February 20.

**June 21-23**—Maine Medical Association at Rangeley, Maine.

**June 22 and 23**—The Medical Library Association. See page 1075, issue of May 21.

**June 29 - July 11**—Hospital Administration. See page 957, issue of May 7.

**August 24-29**—Harvard University Tercentenary Celebration. See page 1166, issue of June 4.

**September, 1936**—First International Congress of Sanatoria and Private Nursing Homes. See page 803, issue of April 16.

**September 7-10**—International Union against Tuberculosis. See page 554, issue of March 12.

**September 14 and 15**—Tercentenary Session of the Harvard Medical School. See page 1166, issue of June 4.

**September 29 - October 3**—First International Conference on Fever Therapy. See page 1325, issue of December 26, 1935, and page 1075, issue of May 21.

**October 12-18**—Third International Congress on Malaria. See page 1076, issue of May 21.

**October 19-23**—Clinical Congress of the American College of Surgeons. See page 180, issue of January 23.

**October 19-31**—1936 Graduate Fortnight of the New York Academy of Medicine. See page 1221.

**October 20-23**—The American Public Health Association. See page 1226.

**April 21-24, 1937**—American Society for Experimental Pathology. See page 1075, issue of May 21.

## BOOK REVIEWS

**Manson's Tropical Diseases. A Manual of the Diseases of Warm Climates.** Edited by Philip H. Manson-Bahr. Tenth Edition, Revised. 1003 pp. Baltimore: William Wood & Company. $11.00.

This new edition of Manson's classical textbook on tropical diseases has been extensively revised and much new material has been added. Because of the rapid advance in knowledge of tropical medicine, no textbook on that subject could be fully up-to-date when published. Nevertheless, it is unfortunate that no mention has been made of the revolution in the treatment of sprue which followed the discovery, several years ago, that liver extract not only cured the anemia but also promptly relieved the gastrointestinal symptoms in the great majority of cases.

Moreover, there is no mention of the close analogy which has been shown to exist between so-called "alcoholic neuritis" and that of beri-beri. Both yield to treatment with the same vitamins; and cases of peripheral neuritis in pregnancy have also been similarly treated with complete success.

On the whole, however, the book can be recommended highly.

**The Treatment of Acute Poisoning.** H. L. Marriott. 45 pp. London: John Murray. 5s. net.

This is an excellent brochure of forty-odd pages which reduces the treatment of acute poisoning from experience with several hundred patients at the Middlesex Hospital in London to the following summary:

"The practitioner should immediately put the following three questions to himself, and act instantly upon the answers evoked:

"Question One: Is the patient asphyxiated or suffering from poisoning by a gas?

"If so: (1.) Maintain air-way
(2.) Artificial respiration } if needed.
(3.) Seven per cent $CO_2$ and 93 per cent oxygen for all cases, except non-gas cases who are already breathing more vigorously than normal who need oxygen only.

"Question Two: If the poison was not gaseous, how did it enter the body?

"If swallowed: gastric lavage, unless it is known

to be a corrosive acid or alkali. If corrosive—neutralize.

"Other routes: Wash away poison if practicable.

"Question Three: Is life endangered by any of the four following:

"1. Coma?

"If so: (1.) Strychnine 1/8 gr. (mg.) hypodermically and coramine 5 to 15 cc. intravenously or intramuscularly—at once, and repeated as often as hourly if necessary.

"(2.) Lumbar puncture—immediately, and eight-hourly as long as coma lasts.

"(3.) If coma prolonged beyond eight hours—continuous intravenous drip saline.

"2. Dehydration and Dechloridation?

"If so: Water and salt until relieved—half-normal saline by mouth if practicable, or, if not, normal saline by continuous intravenous drip.

"3. Pain?

"If so: Morphia ¼ gr. (16 mg.) for an adult.

"4. Delirium or Convulsions?

"If so: Injection of pernocton*—either 1 cc. per minute intravenously till patient sleeps, or an intramuscular injection of a dose of 1 cc. per 20 lb. of body-weight."

*A 10 per cent solution of one of the barbituric acid salts.

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**Fasciae of the Human Body and Their Relations to the Organs They Envelop.** Edward Singer. 105 pp. Baltimore: The Williams & Wilkins Company. $3.00.

This monograph on the fasciae of the human body and their relations to the organs they envelop may be regarded as belonging in a group with such works as Gallaudet's and Merkel's. It represents a dissection study, by a special method of all the fasciae layers and compartments of the body with special reference to their relations and contents. The work is illustrated by a series of twenty-four full-page plates from original drawings by Elizabeth B. Cuzzort. In the distribution of these plates and in certain phraseologies of the text, the work suggests a Teutonic background. It is characteristically thorough and minute but without prolixity. It is an admirable study of a small but important and often-neglected domain of anatomy.

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**Injury and Incapacity with Special Reference to Industrial Insurance.** H. Ernest Griffiths. 270 pp. Baltimore: William Wood & Company. $5.00.

The objective of this book is to furnish a basis for accurate estimation of the period of disability following injury. The statistical material is obtained from the author's cases and 50,000 accidents reported to an English insurance company.

A feature of questionable added value is that the period of incapacity for each injury is given separately for each age group by decades. This makes the number of cases in each group so small that tremendous inconsistencies result. In general the periods of disability seem unduly long.

An interesting section classifies all occupations in twenty-four groups and gives the detailed physical requirements for each group.

As a whole the volume does not impress the reviewer as of great practical use in this country.

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**A Marriage Manual. A Practical Guide-Book to Sex and Marriage.** Hannah M. Stone and Abraham Stone. 334 pp. New York: Simon & Schuster. $2.50.

This is by all odds the best book of its kind that it has been the reviewer's privilege to read. The anatomy and physiology on which the advice given is based are authoritative. Throughout the book the reviewer could detect only one very minor error. In general the advice follows the best medical opinion. There are, it is true, some passages, particularly those dealing with the length of time after marriage before children are desirable, the interval between pregnancies, etc., which are subject to differences of opinion. Taken altogether it is a book that can be given freely to patients. The only serious objection to the book is the method of presentation. The reviewer most emphatically dislikes the method of question and answer; it savors too much of the quiz compend. The book, however, is recommended.

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**Prescription Writing and Formulary. The Art of Prescribing.** Charles Solomon. 351 pp. Philadelphia, London and Montreal: J. B. Lippincott Company.

This work is a distinct advance over the many formularies of past years which have been merely collections of time-honored or even obsolete prescriptions. Moreover it contains much information upon pharmacy and prescription writing of which most physicians are more or less in ignorance. One valuable feature is a discussion of the cost to patients of prescriptions and the elimination of costly ingredients where less expensive ones will serve as well. But the chief characteristic which marks this book a superior to its precursors is the generous inclusion of new and non-official drugs upon which modern medicine so largely depends. It can be recommended highly.

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**The Obstetric Pelvis.** Herbert Thoms. 115 pp. Baltimore: The Williams & Wilkins Company. $2.50.

Dr. Thoms has written a most interesting monograph on the subject of the female pelvis and its relation to obstetrics. The chapters on x-ray technique of measuring the pelvis and the baby in utero are clear and concise. His position, however, in regard to the necessity of taking an x-ray as a routine procedure seems hardly justified.